

## **Introduction**

On May 23, 2006 an addendum work plan was submitted to the EPA to perform pipeline clean out and abandonment, in compliance with the approved Removal Action Work Plan for the Falcon Refinery Superfund Site, which is dated June 29, 2004. A copy of the addendum work plan is provided in Appendix A of this document. After reviewing the work plan the EPA On-Scene Coordinator (OSC) approved the plan with the required changes that are provided in Appendix B. Maps showing the locations of the pipeline cuts can be found in the addendum work plan in Appendix A.

Figures 1 and 2 are pipeline maps that depict the pipelines from the refinery to the current and former barge dock facilities. Figure 1, which has a photographic background shows the pipelines, photographs of the pipelines and includes photographs of the clean out activities. Figure 2 traces each pipeline and shows the diameters of current and former NORCO pipelines. Requests for information from adjoining pipeline operators about the diameters and specific routing of their pipelines resulted in no useful information,

This report describes the implementation of the addendum work plan.

The EPA OSC was provided five days notice of the pipeline cleanout and abandonment.

## **Pipeline Background**

Prior to pipeline clean out and abandonment activities the Kleinfelder on-site manager had inventoried seven above ground pipelines that paralleled Bishop Road as noted in the work plan (Appendix A). Only six of the pipelines extend the full distance from the refinery to the point that the pipelines go underground. However, as excavating and pipeline cutting began four additional pipelines were discovered resulting in a total of 11 pipelines, including an active 8-inch pipeline that lies immediately adjacent to the abandoned pipelines.

Photo 1 shows the above ground pipelines that parallel Bishop Road, including in order from left to right in the photo an 8-inch, 12-inch, 8-inch, two 6-inch and then the active 8-inch pipeline that is nearest Bishop Road.

Photo 2 shows the pipelines at the point that they go underground. As shown, the 8-inch line (left side of photo) was capped prior to clean out operations. The remaining above ground pipelines are visible along with two 10-inch pipelines that were apparently used formerly and no longer extend beyond the bushes in the photo. Again the active line is visible on the right side of the photo.

Figures 1 and 2 are views of the entire length of each of the pipelines, which are amended from previous submissions to the EPA. The depicted locations are based on interviews

with TCEQ and Railroad Commission of Texas (RRC) staff that were involved in investigations dealing with the pipelines and a corrosion mitigation survey.

An inspector for the RRC performed an investigation of the pipelines in the area and traced the pipelines from Bishop Road to the former barge dock facility with pipeline locating equipment. The pipeline route that he detected is shown on Figures 1 and 2 and a hand sketch of his mapping was in the document record.

The RRC inspector could not trace the pipelines all the way to the intercoastal waterway due to the concrete cover and the large amounts of metal in that area of the former docking facility. The inspector indicated that to find the exact point where the pipelines were plugged and abandoned would be very expensive and would require breaking out the concrete cover to locate the lines.

After the pipeline clean out and abandonment NORCO hired Wendell and Associates to perform a Corrosion Mitigation Survey of the active 8-inch pipeline that connects the refinery to the current barge dock facility. A copy of the report is included in Appendix D of this addendum.

Results of the survey included a detailed map showing the location of the 8-inch pipeline, which is different from the location that NORCO was previously provided. The survey also provided the names of three pipelines that cross the NORCO pipeline, which include two pipelines owned by Gulf South and one owned by Boss Pipeline. In addition Plains Marketing owns a pipeline that runs through the wetlands adjacent to the refinery and ends at the barge dock facility at the end of Bishop Road. A release from the current Plains pipeline (formerly ARM) caused the release of significant amounts of waste into the wetlands. A description of the release is in the Falcon Refinery document record.

### **Safety and Health**

Prior to each day's activities a safety tailgate meeting was held and the procedures outlined in the approved Safety and Health Plan were followed. On-site safety equipment for the pipeline clean out and abandonment included hard hats, steel toe boots, gloves, safety glasses, an explosive meter, photoionization detector (PID), fire extinguishers, absorbent material, oil booms and a first aid kit. Paul Supak (Kleinfelder) was the designated Site Safety Officer for the pipeline activities. All on site personnel had 40-hour HAZWOPER training and valid 8-hour refresher training. Personal protective equipment (PPE) also included organic vapor respirators.

No excavations extended deeper than four feet and as a result shoring was not required.

### **Pipeline Cleanout Activities**

The following chronology of activities is provided.

## **Monday, June 12**

Prior to the initiation of field activities the on-site personnel, which included Paul Supak (Kleinfelder), Casey Wills (USA Environmental (USA)) and Marlin Fuller (USA) held a site safety meeting and discussed the location and the numbers of emergency services. Prior to mobilizing a line locator had been called and utilities in the area were marked. After the safety meeting a thorough site reconnaissance was performed of all pipeline locations and block valves.

During the reconnaissance a nest of bees was found in one of the pipelines and an exterminator (PestPatrol) was called to remove the nest from the pipe.

The remainder of the day until 6:00 pm was spent using the USA line locator to trace the pipelines from Bishop Road (where they go underground) to the planned clean out and abandonment point near Sunray Road. Photo 1 shows the above ground pipelines that lead from the refinery to Bishop Road where the pipelines go underground.

## **Tuesday, June 13**

Paul Supak, Casey Wills and Marlin Fuller held a safety meeting to discuss the planned activities for the day and the possible hazards that could be encountered.

Holes were carefully drilled into the tops of the three pipelines located inside a concrete containment near Bishop Road (Photo 3). After drilling the holes an explosimeter and PID were used to monitor the volatile vapors. In the westernmost pipeline vapors were recorded at concentrations of 20 ppm and the Lower Explosive Limit (LEL) was >10%. The pipeline was allowed to vent and was re-evaluated to ensure a safe condition prior to cutting.

Prior to cutting the pipelines Phillip Service Corporation (PSC) provided a vacuum truck to remove any liquid detected in the pipelines or to recover any spilled liquid. When one of the pipelines in the concrete containment was cut, approximately 20 gallons of liquid were released into the concrete containment (Photo 3) and the vacuum truck was used to remove the liquid. No liquid was spilled on the ground. Excavation began at this location (Photo 4).

Additional pipelines, some of which were in poor condition were cut and work stopped at 6:30 pm.

## **Wednesday, June 14**

Paul Supak, Casey Wills and Marlin Fuller held a safety meeting to discuss the planned activities for the day and the possible hazards that could be encountered.

USA continued to cut pipelines at the Bishop Road location and a PSC vacuum truck was at the site to remove liquid from the pipelines.

The EPA RPM and a representative of the TCEQ witnessed activities.

Addition pipeline location activities were performed with the help of a Superior Crude Gathering (Superior) employee. Superior leases tanks at the refinery and uses the active pipeline to load crude into barges at the docking facility.

Pipeline excavation began at the Sunray Road location (Photo 5) and work stopped at 6:30 pm.

#### **Thursday, June 15**

Paul Supak, Casey Wills and Marlin Fuller held a safety meeting to discuss the planned activities for the day and the possible hazards that could be encountered.

An excavator was used to expose the pipelines at the Sunray Road location and PSC was on-site to remove groundwater from the excavation. After excavating and uncovering ten pipelines it was discovered that one of the 8-inch pipelines had already been cut and capped at this location.

The EPA RPM and a representative of the TCEQ witnessed activities.

After all the pipelines were exposed USA began drilling holes in the tops of the pipelines and worked stopped at 6:30 pm.

#### **Friday, June 16**

Paul Supak, Casey Wills and Marlin Fuller held a safety meeting to discuss the planned activities for the day and the possible hazards that could be encountered.

The excavator continued to expose the remainder of the pipelines and the holes were drilled into all the pipelines. Hydrocarbon vapors were detected at a concentration of 9.5 ppm and respirators were worn until vapors were no longer detected.

A pneumatic saw was used to cut sections out of each of the abandoned pipelines and the initial pipeline was pigged from Bishop Road to Sunray Road. The remainders of the pipelines were cut and sections of pipe were removed (Photos 6, 7 and 8).  
Pigging of the pipelines was initiated and the site was secured at 6:30 when work stopped (Photo 9).

#### **Saturday, June 17**



Robert Lindsey (Kleinfelder), Casey Wills and Marlin Fuller held a safety meeting to discuss the planned activities for the day and the possible hazards that could be encountered. Specifically the topics discussed included heat, dehydration, hot work (cutting and welding) and PPE.

Prior to any cutting or welding, vapors were checked and all readings indicated a safe work environment in the excavation.

Pipeline pigging continued on the pipelines that were 8-inch or larger from Bishop Road to Sunray Road. The remainder of the contents of the pipelines was evacuated using a vacuum truck. The vacuum truck pulled fluids initially from the pipeline segments from Bishop Road to Sunray Road and then from Sunray Road to the former docking facility. The contents of all 10 pipelines were removed.

By 1:45 all the contents of the pipelines were evacuated from the segment between Bishop Road and Sunray Road and from Sunray road to the former barge dock facilities. PSC vacuum trucks recovered approximately 8,400 gallons of water and hydrocarbons during pigging and vacuum operations.

The following pipelines were detected in the excavation.

**West to East on South (refinery) side of excavation:**

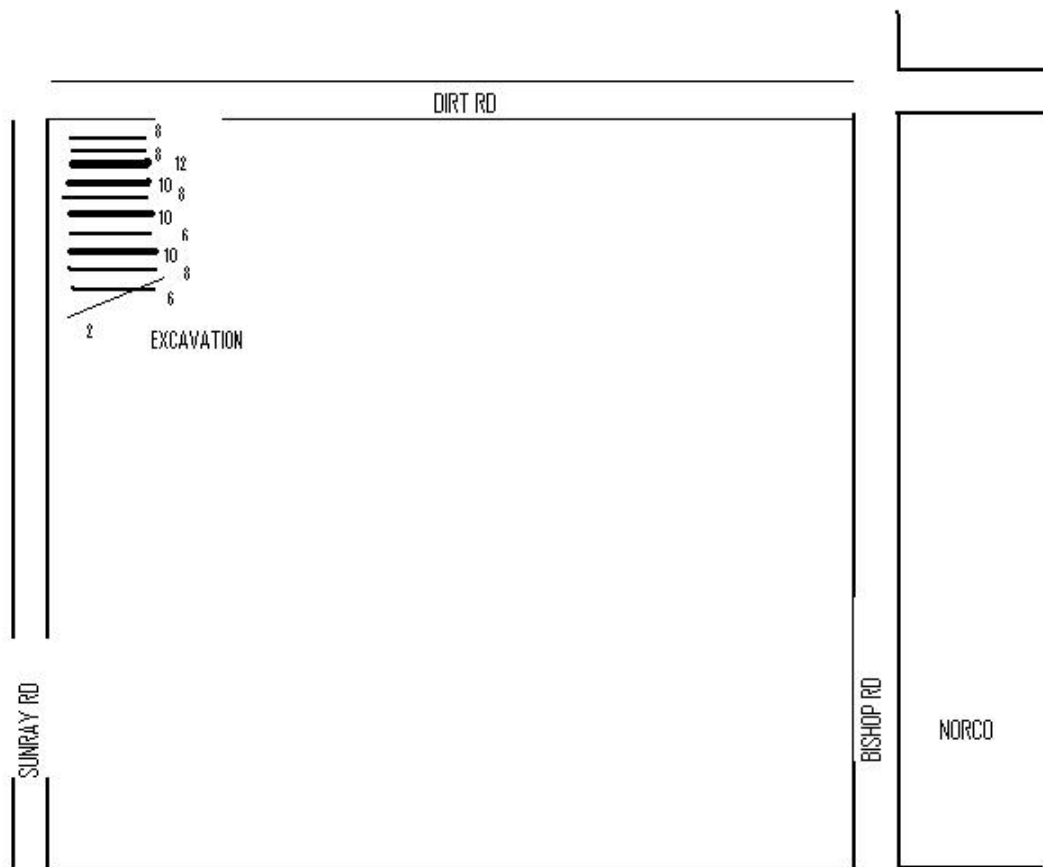
1. 6" – Black band capped
2. 8" – White PVC capped
3. 10" – Steel plate seal welded
4. 6" – Black band capped
5. 10" – Steel plate seal welded
6. 8" – White PVC capped
7. 10" – Steel plate seal welded
8. 12" – Steel plate seal welded
9. 8" – White PVC capped
10. 8" – White PVC capped

**West to East on North (former and current barge dock) side of excavation:**

1. 6" – Black band capped
2. Position 2 is vacant and should have lined up with the opposite 8". During the excavating, the 8" was found already cut and capped closer to the road. That section of pipe was removed.
3. 10" – Steel plate seal welded
4. 6" – Black band capped
5. 10" – Steel plate seal welded

6. 8" – White PVC capped
7. 10" – Steel plate seal welded
8. 12" – Steel plate seal welded
9. 8" – Steel plate seal welded
10. 8" – White PVC capped

The excavated pipelines are depicted on the following drawing.



All lines were completed and sealed off as shown in Photos 10 and 11. Some pipelines were in poor condition and would not accommodate welding. On those pipelines caps were placed prior to backfilling. Compaction and leveling of the site was completed at 7:00 pm.

Prior to abandoning the site all visually impacted liquids and soil were removed by the vacuum truck and soil samples were obtained from the excavation and analyzed for volatile organic compounds and semi-volatile compounds. The results of the analyses will be discussed later in this report.

**Tuesday, June 20**

Paul Supak, Casey Wills and Darren Dilliot (USA) held a safety meeting to discuss the planned activities for the day and the possible hazards that could be encountered.

USA welded steel caps onto the ends of the three 8" pipelines in the concrete containment at Bishop Rd. and onto the ends of the 12" pipe, the 10" pipe, and the 6" pipe below the pipe rack at Bishop Rd. The remaining five pipelines (two 10", two 8", and a 6") were filled with concrete rather than having welded caps because the pipes were too corroded to be welded (Photo 12). USA began to weld flanges onto the ends of the pipes on the pipe rack.

The site was secured prior to work stoppage for the day at 6:30 pm.

### **Wednesday, June 21**

Paul Supak, Casey Wills and Darren Dilliot (USA) held a safety meeting to discuss the planned activities for the day and the possible hazards that could be encountered.

The remaining pipelines at the Bishop Road location had flanges welded onto the pipelines and then caps were bolted on the flanges.

### **Clean Out Summary**

Described in this section is the specific clean out of each pipeline and a corrected pipeline location description.

### **Project Summary**

Ten out of service pipelines were cut and capped at the point that the pipelines go underground near the intersection of Bishop Road and Bay Avenue. Near the intersection of Sunray Road and Bay Avenue the ten pipelines were cut again, twice, and a section of pipe was removed from each pipeline. Caps were placed on the pipelines or steel plates were welded on the ends of the pipelines after the pipelines were either pigged clean or a vacuum was placed on the pipeline to remove all the contents. In total approximately 8,400 gallons of hydrocarbons and water were removed from the pipelines and placed in Tank 26 on the refinery property.

As required by the EPA the contents of the pipelines were removed from the section of pipeline from Bishop Road to Sunray Road and from Sunray Road to the former barge dock facilities.

After any spilled liquid and impacted soil was removed from the excavation at Sunray Road two sediment samples were obtained for laboratory analysis of volatile organic compounds (VOC) and semi-volatile organic compounds (SVOC). Results of the

analyses, which are in Appendix C, indicated several VOC were detected. However, only acetone and toluene were detected above the laboratory reporting limits.

The maximum value for acetone in the sediment was 73 ug/kg and the TCEQ Ecological Benchmark for acetone is 60,030 ug/kg for freshwater and 167,230 ug/kg for marine sediment. The maximum value for toluene was 6.6 ug/kg and the Ecological Benchmarks are 2,880 ug/kg and 940 ug/kg respectively.

The area of the abandoned pipelines will be further evaluated during the RI/FS.

After the pipeline clean out and abandonment NORCO hired Wendell and Associates to perform a Corrosion Mitigation Survey of the active 8-inch pipeline that connects the refinery to the current barge dock facility. A copy of the report is included in Appendix D.

Results of the survey included a detailed mapping of the location of the 8-inch pipeline, which is different from the location that NORCO was provided and has been reported in past documents. Included on Figures 1 and 2 are pipeline maps showing the correct pipeline location as determined by Wendel and from discussion with personnel with the TCEQ and the RRC. The survey also provided the names of three additional pipelines that cross the NORCO pipeline, which include two pipelines owned by Gulf South (Photo 13) and one owned by Boss Pipeline. In addition Plains Marketing owns a pipeline that runs through the wetlands adjacent to the refinery. All of the pipelines are shown on Figures 1 and 2.

NORCO is in the process of implementing the recommendations in the mitigation survey.

## **FIGURES**





Legend			
Roads	Active Pipeline	Abandoned Pipeline	Outside Operations
Area Descriptions	Above Ground	Above Ground	Gulf South Pipeline
	Underground	Underground	Boss Pipeline
			Gathering Line 2'
			Plains Marketing Pipeline

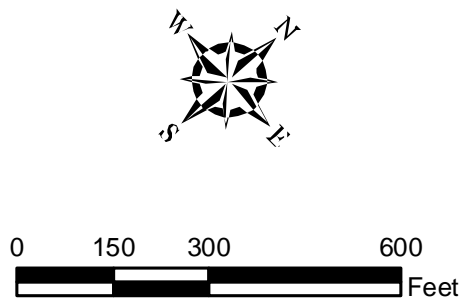
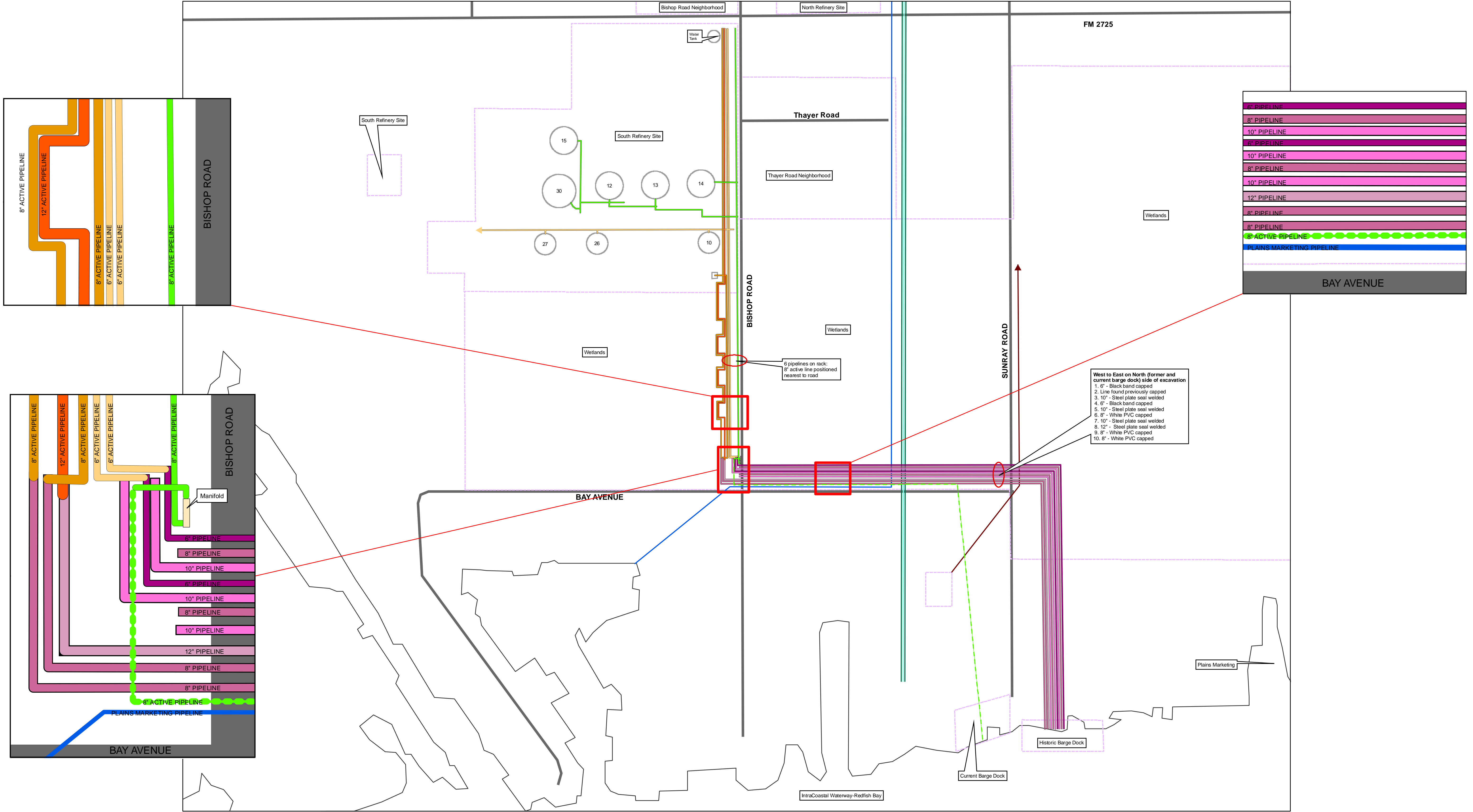


Figure 2	SITE MAP		 1340 Charwood Road, Suite 1 • Hanover, MD 21076 • (866) 862-9760	Drawn By: MAEA	
	Falcon Refinery Ingleside, San Patricio County, Texas			Revised By: SMO	
	Project No. 59752	Filename: Falcon Refinery w/ Photo. mxd		Date: 12/14/2006	Page: 57





# **PHOTOS**





Photo 1: Above ground pipelines.

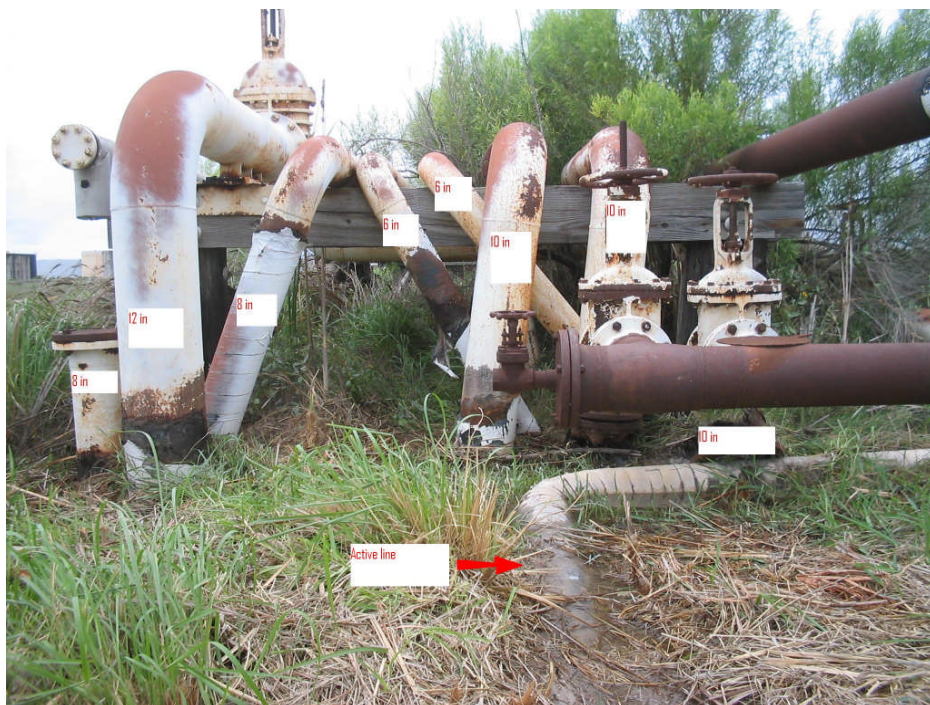


Photo 2: Diameters of pipelines that go underground at Bishop Road.



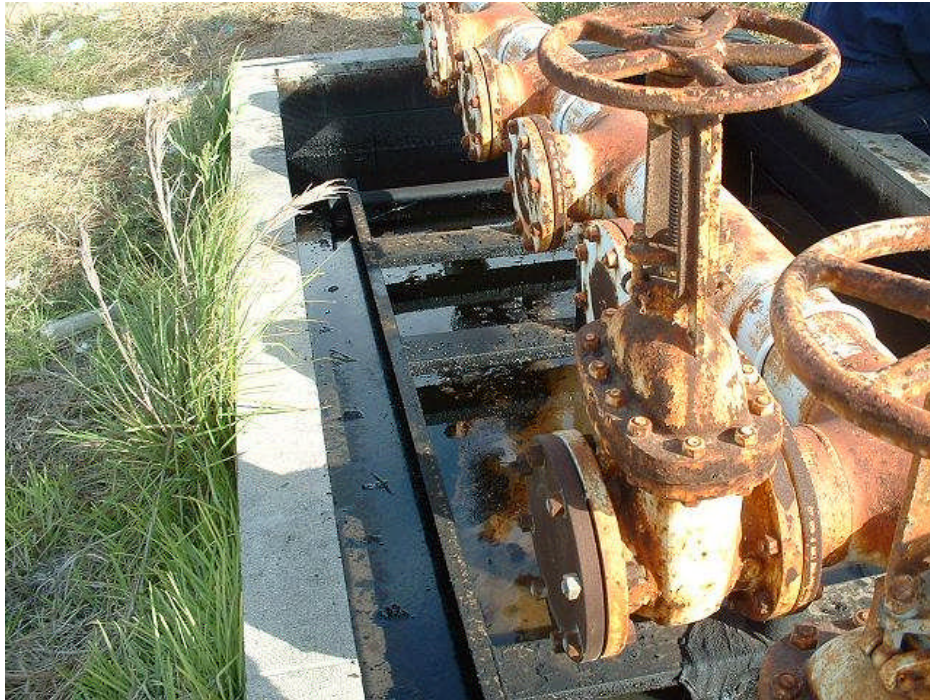


Photo 3: Concrete Containment.



Photo 4: Beginning Bishop Road Excavation.





Photo 5: Excavating begins at Sunray Road.



Photo 6: Pipelines were cut.





Photo 7: Water and Product are removed.



Photo 8: Sections of pipe were removed.





Photo 9: Set up for pigging.



Photo 10: Welding pipelines.





Photo 11: Welding caps on pipelines.



Photo 12: Concrete plugs.



Photo 13: Gulf South gas pipeline.

## **APPENDIX A**



**Introduction**

In compliance with the approved Removal Action Work Plan for the Falcon Refinery Superfund Site, which is dated June 29, 2004, Kleinfelder provides this work plan addendum. Described in this addendum are the planned pipeline cleanout activities. USA Environmental, LP (USA) will perform the pipeline cleanout under the supervision of Kleinfelder.

The EPA On-Scene Coordinator (OSC) will be given five days notice of the pipeline cleanout.

**Pipeline Background**

There are seven pipelines that connect the Falcon Refinery to the current and former barge docking facilities (Figure 1). Six of the pipelines are abandoned and consist of a 10-inch, three 8-inch and two 6-inch diameter pipelines (Photograph 1). An active 8-inch pipeline (marked with a red spot in Photo 1), that lies immediately adjacent to the abandoned pipelines, will remain active.

The six abandoned pipelines will be exposed, any contents removed and plates will be welded on pipeline to ensure that there is no future environmental concern associated with the abandoned pipelines.

**Safety and Health**

The approved Site-Specific Health and Safety Plan will be provided to USA and prior to each day's activities a safety tailgate meeting will be held. Safety equipment will include hard hats, steel toe boots, gloves, safety glasses, an explosive meter, photoionization detector, fire extinguisher, absorbent material, oil booms and a first aid kit. Paul Supak (Kleinfelder) will be the designated Site Safety Officer for the pipeline activities.

Any excavations deeper than four feet will require shoring and the work area will be fenced or taped off. If vapors above the permissible exposure limit are detected, then appropriate respiratory protection will be used.

Prior to any excavating or probing utilities will be marked and pipelines will be located.

**Pipeline Cleanout Activities**

To minimize the potential for any impacts associated with the pipeline cleanout, block valves will be located and closed as near to the point where the pipelines go underground as possible, near Bishop Road. A vacuum truck will be on stand-by should the above ground portions of the pipelines contain any product.

## **Removal Action Work Plan**

**Falcon Refinery**

**Date: May 23, 2006**

### **Removal Action Work Plan Addendum No. 1**

**Page: 2**

A hole will be drilled in the top of each pipeline to determine if any liquid is detected in the pipelines. If liquid is detected, care will be taken to ensure that none is released. After the removal of any liquid, the pipelines will be cut at the surface with a pneumatic saw and the pipeline will be checked for vapors.

After a pipeline is cut, a Neoprene mechanical plug will be inserted in the end of each pipe and a slip on flange will be welded on the pipe. Blind flanges will then be bolted on the slip on flanges.

The area immediately adjacent to the point where the pipelines go below Sunray Road (Photo 2) will be excavated, the pipelines will be exposed and a trench box will be placed around the pipelines if groundwater or surface water are a concern. Currently there are nine pipeline markers at this location, indicating that two pipelines not associated with the Falcon Refinery are in this pipe chase.

A current will be attached to the pipelines at the Bishop Road location and readings will be made at the Sunray Road location to identify each pipeline.

A blind pig will be placed in the pipelines and the pipelines will then be vacuumed to remove any residual product that may be left in the abandoned pipelines. Any recovered fluid will be transported to the refinery and placed in Tank 2 on the North side of the refinery.

After the removal of any liquid, the pipelines at the Sunray Road location will be cut with a pneumatic saw. A vacuum truck will be on stand-by should any liquids be detected. After all fluids are removed, the pipelines at the Sunray Road location will have caps welded on the ends of each pipeline.

Removed soil will be placed back in the excavations and carefully compacted.

Site photographs will be taken and the OSC will be notified of any releases from the pipeline activity.

### **Cleanout Contingency**

If any fluid is spilled, visually contaminated soil is observed or if significant organic vapors are detected, soil sampling will be performed for volatile and semi-volatile organics. If any spill reaches surface water then surface water sampling for volatile and semi-volatile organics will be performed.

Any impacted soil will be excavated and brought to the refinery where the soil will be placed on a 40 mil HDPE liner and covered with the liner material pending characterization and proper disposal.

## **Reporting**

After the completion of pipeline cleanout activities a report will be prepared and sent to the OSC. The report will also be included in the final report, which will be submitted within 90 days of the completion of Removal Action activities.

FALCON PIPELINE EXCAVATION PROJECT  
BISHOP ROAD  
INGLESIDE, TEXAS  
PIPELINE CLEANOUT



FIGURE 1





Photo 1





Photo 2

## **APPENDIX B**

I am approving your proposal for the pipeline cleanouts on the condition that the lines are cleaned out from where they go underground all the way through the location of the old historic dock. From what you have told me, NORCO and/or the historical owners of the refinery had 7 pipelines that travelled parallel to Bay Road from approximately Bishop Road underneath Sunray Road and towards an old historical dock use by the refinery. It is also my understanding that one of the seven is an active line (used currently by Superior Crude) from the refinery that was tapped and redirected to the new existing dock. It is the expectation of EPA that all of the abandoned lines or portions thereof be cleaned out all the way to the old historic dock including the abandoned portion of the line that was tapped for the active line. Therefore, you may need to make a slight modification to your proposal.

On another issue, EPA would like you to identify the owners of all of the pipelines that run along Bay Road between Bishop Road and Sunray Road and Sunray Road to the old dock and Bay road to the new dock. This identification should be in the form of a photo/diagram which identifies the location of the pipelines, where they run, and who owns them.



## **APPENDIX C**

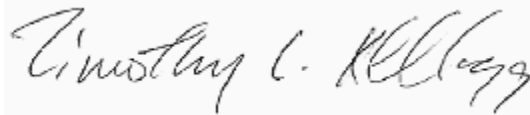
## ANALYTICAL REPORT

Job Number: 560-950-1

Job Description: Falcon Refinery

For:  
Kleinfelder Inc  
3601 Manor Road  
Austin, TX 78723

Attention: Mr. Steve Halasz



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Timothy L. Kellogg  
Project Manager II  
tkellogg@stl-inc.com  
07/27/2006

Project Manager: Timothy L. Kellogg

The test results entered in this report meet all NELAC requirements for accredited parameters. Any exceptions to NELAC requirements are noted in the report. Pursuant to NELAC, this report may not be reproduced except in full, and with written approval from the laboratory. STL Corpus Christi Certifications and Approvals: NELAC TX T104704210-06-TX, NELAC KS E-10362, NELAC LA 03034, Oklahoma 9968, USDA Soil Permit S-42935 Revised.

**Case Narrative for job: 560-J950-1**

Client: Kleinfelder Inc

Date: 07/26/2006

**Volatile Organics Analysis (EPA 8260)**

It was noted during the analysis that the matrix spike recoveries on STL Corpus Christi job number 560-950 were outside of the normal laboratory acceptance criteria. All of the other associated quality control was acceptable.

## EXECUTIVE SUMMARY - Detections

Client: Kleinfelder Inc

Job Number: 560-950-1

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
560-950-1	SR - EAST SAND 4.5'-5'					
Methylene Chloride		5.3	J B	20	ug/Kg	8260B
Acetone		73	B	20	ug/Kg	8260B
Methyl tert-butyl ether		0.45	J	5.0	ug/Kg	8260B
Toluene		3.9	J	5.0	ug/Kg	8260B
1,3,5-Trimethylbenzene		0.77	J	5.0	ug/Kg	8260B
1,2,4-Trimethylbenzene		0.41	J	5.0	ug/Kg	8260B
Methyl Ethyl Ketone		6.5	J	10	ug/Kg	8260B
Xylenes, Total		1.8	J	15	ug/Kg	8260B
560-950-2	SR - WEST SAND 5'					
Methylene Chloride		4.4	J B	20	ug/Kg	8260B
Acetone		55	B	20	ug/Kg	8260B
Methyl tert-butyl ether		0.77	J	5.0	ug/Kg	8260B
Toluene		6.6		5.0	ug/Kg	8260B
Ethylbenzene		0.48	J	5.0	ug/Kg	8260B
1,3,5-Trimethylbenzene		0.86	J	5.0	ug/Kg	8260B
1,2,4-Trimethylbenzene		1.4	J	5.0	ug/Kg	8260B
Methyl Ethyl Ketone		8.2	J	10	ug/Kg	8260B
Xylenes, Total		2.3	J	15	ug/Kg	8260B

## METHOD SUMMARY

Client: Kleinfelder Inc

Job Number: 560-950-1

Description	Lab Location	Method	Preparation Method
<b>Matrix:</b> <b>Solid</b>			
Volatile Organic Compounds by GC/MS	STL-COR	SW846 8260B	
Purge and Trap for Solids	STL-COR		SW846 5030B
Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	STL-COR	SW846 8270C	
Ultrasonic Extraction	STL-COR		SW846 3550B

### LAB REFERENCES:

STL-COR = STL-Corpus Christi

### METHOD REFERENCES:

SW846 - "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986  
And Its Updates.

## METHOD / ANALYST SUMMARY

Client: Kleinfelder Inc

Job Number: 560-950-1

Method	Analyst	Analyst ID
SW846 8260B	Michalk, Kevin	KRM
SW846 8270C	Fisher, Gayland E	GEF

## SAMPLE SUMMARY

Client: Kleinfelder Inc

Job Number: 560-950-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
560-950-1	SR - EAST SAND 4.5'-5'	Solid	06/26/2006 1025	06/26/2006 1233
560-950-2	SR - WEST SAND 5'	Solid	06/26/2006 1046	06/26/2006 1233

## Analytical Data

Client: Kleinfelder Inc

Job Number: 560-950-1

**Client Sample ID: SR - EAST SAND 4.5'-5'**

Lab Sample ID: 560-950-1

Date Sampled: 06/26/2006 1025

Client Matrix: Solid

Date Received: 06/26/2006 1233

### 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 560-2782

Instrument ID: Agilent GCMS [Method

Preparation: 5030B

Lab File ID: 06280606.D

Dilution: 1.0

Initial Weight/Volume: 5.01 g

Date Analyzed: 06/28/2006 1146

Final Weight/Volume: 5 mL

Date Prepared: 06/28/2006 1146

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		0.40	5.0
Chloromethane		ND		0.40	5.0
Vinyl chloride		ND		0.40	5.0
Bromomethane		ND		0.75	5.0
Chloroethane		ND		0.40	5.0
Trichlorofluoromethane		ND		0.40	5.0
Ethyl ether		ND		0.40	5.0
1,1-Dichloroethene		ND		0.40	5.0
Carbon disulfide		ND		0.40	5.0
Iodomethane		ND		0.40	5.0
Acrolein		ND		5.0	50
Methylene Chloride		5.3	J B	0.40	20
Acetone		73	B	1.4	20
trans-1,2-Dichloroethene		ND		0.40	5.0
Methyl tert-butyl ether		0.45	J	0.40	5.0
Acetonitrile		ND		5.0	50
1,1-Dichloroethane		ND		0.40	5.0
Acrylonitrile		ND		5.0	50
Vinyl acetate		ND		0.44	5.0
cis-1,2-Dichloroethene		ND		0.40	5.0
2,2-Dichloropropane		ND		0.40	5.0
Chloroform		ND		0.40	5.0
Ethyl acetate		ND		1.0	5.0
Carbon tetrachloride		ND		0.40	5.0
1,1,1-Trichloroethane		ND		0.40	5.0
1,1-Dichloropropene		ND		0.40	5.0
Benzene		ND		0.40	5.0
1,2-Dichloroethane		ND		0.40	5.0
Trichloroethene		ND		0.40	5.0
Dibromomethane		ND		0.40	5.0
1,2-Dichloropropane		ND		0.40	5.0
Dichlorobromomethane		ND		1.0	5.0
Methyl methacrylate		ND		0.40	5.0
1,4-Dioxane		ND		10	100
cis-1,3-Dichloropropene		ND		1.0	5.0
Toluene		3.9	J	0.40	5.0
2-Nitropropane		ND		1.0	5.0
methyl isobutyl ketone		ND		0.64	5.0
trans-1,3-Dichloropropene		ND		1.0	5.0
Tetrachloroethene		ND		0.40	5.0
Ethyl methacrylate		ND		1.0	5.0
1,1,2-Trichloroethane		ND		0.40	5.0
Chlorodibromomethane		ND		1.0	5.0



## Analytical Data

Client: Kleinfelder Inc

Job Number: 560-950-1

Client Sample ID: SR - EAST SAND 4.5'-5'

Lab Sample ID: 560-950-1

Date Sampled: 06/26/2006 1025

Client Matrix: Solid

Date Received: 06/26/2006 1233

### 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 560-2782

Instrument ID: Agilent GCMS [Method

Preparation: 5030B

Lab File ID: 06280606.D

Dilution: 1.0

Initial Weight/Volume: 5.01 g

Date Analyzed: 06/28/2006 1146

Final Weight/Volume: 5 mL

Date Prepared: 06/28/2006 1146

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	MDL	RL
1,3-Dichloropropane		ND		0.40	5.0
Ethylene Dibromide		ND		0.40	5.0
2-Hexanone		ND		0.40	5.0
Chlorobenzene		ND		0.40	5.0
Ethylbenzene		ND		0.40	5.0
Bromoform		ND		1.0	5.0
Styrene		ND		1.0	5.0
1,1,2,2-Tetrachloroethane		ND		0.40	5.0
1,2,3-Trichloropropane		ND		0.40	5.0
1,3,5-Trimethylbenzene		0.77	J	0.40	5.0
1,2,4-Trimethylbenzene		0.41	J	0.40	5.0
1,2,3-Trichlorobenzene		ND		0.40	5.0
Methyl Ethyl Ketone		6.5	J	0.43	10
1,1,2-Trichloro-1,2,2-trifluoroethane		ND		0.40	5.0
Xylenes, Total		1.8	J	0.40	15
Surrogate		%Rec		Acceptance Limits	
Dibromofluoromethane (Surr)		88		50.0 - 126.0	
1,2-Dichloroethane-d4		93		67.0 - 120.0	
Toluene-d8		87		57.0 - 120.0	
4-Bromofluorobenzene (Surr)		87		44.0 - 126.0	

## Analytical Data

Client: Kleinfelder Inc

Job Number: 560-950-1

Client Sample ID: SR - WEST SAND 5'

Lab Sample ID: 560-950-2

Date Sampled: 06/26/2006 1046

Client Matrix: Solid

Date Received: 06/26/2006 1233

### 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 560-2782

Instrument ID: Agilent GCMS [Method

Preparation: 5030B

Lab File ID: 06280607.D

Dilution: 1.0

Initial Weight/Volume: 5.02 g

Date Analyzed: 06/28/2006 1212

Final Weight/Volume: 5 mL

Date Prepared: 06/28/2006 1212

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	MDL	RL
Dichlorodifluoromethane		ND		0.40	5.0
Chloromethane		ND		0.40	5.0
Vinyl chloride		ND		0.40	5.0
Bromomethane		ND		0.75	5.0
Chloroethane		ND		0.40	5.0
Trichlorofluoromethane		ND		0.40	5.0
Ethyl ether		ND		0.40	5.0
1,1-Dichloroethene		ND		0.40	5.0
Carbon disulfide		ND		0.40	5.0
Iodomethane		ND		0.40	5.0
Acrolein		ND		5.0	50
Methylene Chloride		4.4	J B	0.40	20
Acetone		55	B	1.4	20
trans-1,2-Dichloroethene		ND		0.40	5.0
Methyl tert-butyl ether		0.77	J	0.40	5.0
Acetonitrile		ND		5.0	50
1,1-Dichloroethane		ND		0.40	5.0
Acrylonitrile		ND		5.0	50
Vinyl acetate		ND		0.44	5.0
cis-1,2-Dichloroethene		ND		0.40	5.0
2,2-Dichloropropane		ND		0.40	5.0
Chloroform		ND		0.40	5.0
Ethyl acetate		ND		1.0	5.0
Carbon tetrachloride		ND		0.40	5.0
1,1,1-Trichloroethane		ND		0.40	5.0
1,1-Dichloropropene		ND		0.40	5.0
Benzene		ND		0.40	5.0
1,2-Dichloroethane		ND		0.40	5.0
Trichloroethene		ND		0.40	5.0
Dibromomethane		ND		0.40	5.0
1,2-Dichloropropane		ND		0.40	5.0
Dichlorobromomethane		ND		1.0	5.0
Methyl methacrylate		ND		0.40	5.0
1,4-Dioxane		ND		10	100
cis-1,3-Dichloropropene		ND		1.0	5.0
Toluene		6.6		0.40	5.0
2-Nitropropane		ND		1.0	5.0
methyl isobutyl ketone		ND		0.64	5.0
trans-1,3-Dichloropropene		ND		1.0	5.0
Tetrachloroethene		ND		0.40	5.0
Ethyl methacrylate		ND		1.0	5.0
1,1,2-Trichloroethane		ND		0.40	5.0
Chlorodibromomethane		ND		1.0	5.0

## Analytical Data

Client: Kleinfelder Inc

Job Number: 560-950-1

Client Sample ID: SR - WEST SAND 5'

Lab Sample ID: 560-950-2

Date Sampled: 06/26/2006 1046

Client Matrix: Solid

Date Received: 06/26/2006 1233

### 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 560-2782

Instrument ID: Agilent GCMS [Method

Preparation: 5030B

Lab File ID: 06280607.D

Dilution: 1.0

Initial Weight/Volume: 5.02 g

Date Analyzed: 06/28/2006 1212

Final Weight/Volume: 5 mL

Date Prepared: 06/28/2006 1212

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	MDL	RL
1,3-Dichloropropane		ND		0.40	5.0
Ethylene Dibromide		ND		0.40	5.0
2-Hexanone		ND		0.40	5.0
Chlorobenzene		ND		0.40	5.0
Ethylbenzene		0.48	J	0.40	5.0
Bromoform		ND		1.0	5.0
Styrene		ND		1.0	5.0
1,1,2,2-Tetrachloroethane		ND		0.40	5.0
1,2,3-Trichloropropane		ND		0.40	5.0
1,3,5-Trimethylbenzene		0.86	J	0.40	5.0
1,2,4-Trimethylbenzene		1.4	J	0.40	5.0
1,2,3-Trichlorobenzene		ND		0.40	5.0
Methyl Ethyl Ketone		8.2	J	0.43	10
1,1,2-Trichloro-1,2,2-trifluoroethane		ND		0.40	5.0
Xylenes, Total		2.3	J	0.40	15
Surrogate		%Rec		Acceptance Limits	
Dibromofluoromethane (Surr)		89		50.0 - 126.0	
1,2-Dichloroethane-d4		90		67.0 - 120.0	
Toluene-d8		86		57.0 - 120.0	
4-Bromofluorobenzene (Surr)		87		44.0 - 126.0	

## Analytical Data

Client: Kleinfelder Inc

Job Number: 560-950-1

**Client Sample ID: SR - EAST SAND 4.5'-5'**

Lab Sample ID: 560-950-1

Date Sampled: 06/26/2006 1025

Client Matrix: Solid

Date Received: 06/26/2006 1233

### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C

Analysis Batch: 560-2899

Instrument ID: Agilent GCMS [Method

Preparation: 3550B

Prep Batch: 560-2843

Lab File ID: 06300622.D

Dilution: 1.0

Initial Weight/Volume: 30 g

Date Analyzed: 07/01/2006 0001

Final Weight/Volume: 1 mL

Date Prepared: 06/29/2006 0830

Injection Volume:

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	MDL	RL
Phenol		ND		17	330
Bis(2-chloroethyl)ether		ND		37	330
2-Chlorophenol		ND		28	330
1,3-Dichlorobenzene		ND		44	330
1,4-Dichlorobenzene		ND		46	330
Benzyl alcohol		ND		25	330
1,2-Dichlorobenzene		ND		52	330
2-Methylphenol		ND		33	330
2,2'-oxybis(2-chloropropane)		ND		41	330
3 & 4 Methylphenol		ND		17	330
N-Nitrosodi-n-propylamine		ND		17	330
Hexachloroethane		ND		50	330
Nitrobenzene		ND		36	330
Isophorone		ND		17	330
2-Nitrophenol		ND		17	330
2,4-Dimethylphenol		ND		20	330
Bis(2-chloroethoxy)methane		ND		17	330
2,4-Dichlorophenol		ND		23	330
1,2,4-Trichlorobenzene		ND		46	330
Naphthalene		ND		42	330
4-Chloroaniline		ND		47	330
Hexachlorobutadiene		ND		45	330
4-Chloro-3-methylphenol		ND		17	330
2-Methylnaphthalene		ND		31	330
Hexachlorocyclopentadiene		ND		170	670
2,4,6-Trichlorophenol		ND		17	330
2,4,5-Trichlorophenol		ND		17	330
2-Chloronaphthalene		ND		17	330
2-Nitroaniline		ND		22	330
Dimethyl phthalate		ND		17	330
Acenaphthylene		ND		17	330
2,6-Dinitrotoluene		ND		17	330
3-Nitroaniline		ND		26	330
Acenaphthene		ND		17	330
2,4-Dinitrophenol		ND		330	1700
4-Nitrophenol		ND		330	1700
Dibenzofuran		ND		17	330
2,4-Dinitrotoluene		ND		170	330
Diethyl phthalate		ND		17	330
Fluorene		ND		17	330
4-Chlorophenyl phenyl ether		ND		170	330
4-Nitroaniline		ND		28	330
4,6-Dinitro-2-methylphenol		ND		170	1700

## Analytical Data

Client: Kleinfelder Inc

Job Number: 560-950-1

Client Sample ID: SR - EAST SAND 4.5'-5'

Lab Sample ID: 560-950-1

Date Sampled: 06/26/2006 1025

Client Matrix: Solid

Date Received: 06/26/2006 1233

### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch:	560-2899	Instrument ID:	Agilent GCMS [Method
Preparation:	3550B	Prep Batch:	560-2843	Lab File ID:	06300622.D
Dilution:	1.0			Initial Weight/Volume:	30 g
Date Analyzed:	07/01/2006 0001			Final Weight/Volume:	1 mL
Date Prepared:	06/29/2006 0830			Injection Volume:	

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	MDL	RL
N-Nitrosodiphenylamine		ND		17	330
4-Bromophenyl phenyl ether		ND		17	330
Hexachlorobenzene		ND		17	330
Phenanthrene		ND		17	330
Anthracene		ND		17	330
Di-n-butyl phthalate		ND		17	330
Fluoranthene		ND		17	330
Pyrene		ND		17	330
Butyl benzyl phthalate		ND		17	330
Benzo[a]anthracene		ND		17	330
Chrysene		ND		17	330
Bis(2-ethylhexyl) phthalate		ND	B	17	330
Di-n-octyl phthalate		ND		17	330
Benzo[b]fluoranthene		ND	B	17	330
Benzo[k]fluoranthene		ND	B	17	330
Benzo[a]pyrene		ND	B	17	330
Indeno[1,2,3-cd]pyrene		ND	B	17	330
Dibenz(a,h)anthracene		ND	B	17	330
Benzo[g,h,i]perylene		ND	B	17	330
3,3'-Dichlorobenzidine		ND		170	330
Pentachlorophenol		ND		25	1700
Surrogate		%Rec		Acceptance Limits	
2-Fluorophenol		74		45 - 120	
Phenol-d5		75		48 - 120	
Nitrobenzene-d5		73		47 - 120	
2-Fluorobiphenyl		78		50 - 120	
2,4,6-Tribromophenol		88		56 - 120	
Terphenyl-d14		88		56 - 120	

## Analytical Data

Client: Kleinfelder Inc

Job Number: 560-950-1

**Client Sample ID: SR - WEST SAND 5'**

Lab Sample ID: 560-950-2

Date Sampled: 06/26/2006 1046

Client Matrix: Solid

Date Received: 06/26/2006 1233

### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C

Analysis Batch: 560-2899

Instrument ID: Agilent GCMS [Method

Preparation: 3550B

Prep Batch: 560-2843

Lab File ID: 06300623.D

Dilution: 1.0

Initial Weight/Volume: 30 g

Date Analyzed: 07/01/2006 0029

Final Weight/Volume: 1 mL

Date Prepared: 06/29/2006 0830

Injection Volume:

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	MDL	RL
Phenol		ND		17	330
Bis(2-chloroethyl)ether		ND		37	330
2-Chlorophenol		ND		28	330
1,3-Dichlorobenzene		ND		44	330
1,4-Dichlorobenzene		ND		46	330
Benzyl alcohol		ND		25	330
1,2-Dichlorobenzene		ND		52	330
2-Methylphenol		ND		33	330
2,2'-oxybis(2-chloropropane)		ND		41	330
3 & 4 Methylphenol		ND		17	330
N-Nitrosodi-n-propylamine		ND		17	330
Hexachloroethane		ND		50	330
Nitrobenzene		ND		36	330
Isophorone		ND		17	330
2-Nitrophenol		ND		17	330
2,4-Dimethylphenol		ND		20	330
Bis(2-chloroethoxy)methane		ND		17	330
2,4-Dichlorophenol		ND		23	330
1,2,4-Trichlorobenzene		ND		46	330
Naphthalene		ND		42	330
4-Chloroaniline		ND		47	330
Hexachlorobutadiene		ND		45	330
4-Chloro-3-methylphenol		ND		17	330
2-Methylnaphthalene		ND		31	330
Hexachlorocyclopentadiene		ND		170	670
2,4,6-Trichlorophenol		ND		17	330
2,4,5-Trichlorophenol		ND		17	330
2-Chloronaphthalene		ND		17	330
2-Nitroaniline		ND		22	330
Dimethyl phthalate		ND		17	330
Acenaphthylene		ND		17	330
2,6-Dinitrotoluene		ND		17	330
3-Nitroaniline		ND		26	330
Acenaphthene		ND		17	330
2,4-Dinitrophenol		ND		330	1700
4-Nitrophenol		ND		330	1700
Dibenzofuran		ND		17	330
2,4-Dinitrotoluene		ND		170	330
Diethyl phthalate		ND		17	330
Fluorene		ND		17	330
4-Chlorophenyl phenyl ether		ND		170	330
4-Nitroaniline		ND		28	330
4,6-Dinitro-2-methylphenol		ND		170	1700

## Analytical Data

Client: Kleinfelder Inc

Job Number: 560-950-1

**Client Sample ID: SR - WEST SAND 5'**

Lab Sample ID: 560-950-2

Date Sampled: 06/26/2006 1046

Client Matrix: Solid

Date Received: 06/26/2006 1233

### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C

Analysis Batch: 560-2899

Instrument ID: Agilent GCMS [Method

Preparation: 3550B

Prep Batch: 560-2843

Lab File ID: 06300623.D

Dilution: 1.0

Initial Weight/Volume: 30 g

Date Analyzed: 07/01/2006 0029

Final Weight/Volume: 1 mL

Date Prepared: 06/29/2006 0830

Injection Volume:

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	MDL	RL
N-Nitrosodiphenylamine		ND		17	330
4-Bromophenyl phenyl ether		ND		17	330
Hexachlorobenzene		ND		17	330
Phenanthrene		ND		17	330
Anthracene		ND		17	330
Di-n-butyl phthalate		ND		17	330
Fluoranthene		ND		17	330
Pyrene		ND		17	330
Butyl benzyl phthalate		ND		17	330
Benzo[a]anthracene		ND		17	330
Chrysene		ND		17	330
Bis(2-ethylhexyl) phthalate		ND	B	17	330
Di-n-octyl phthalate		ND		17	330
Benzo[b]fluoranthene		ND	B	17	330
Benzo[k]fluoranthene		ND	B	17	330
Benzo[a]pyrene		ND	B	17	330
Indeno[1,2,3-cd]pyrene		ND	B	17	330
Dibenz(a,h)anthracene		ND	B	17	330
Benzo[g,h,i]perylene		ND	B	17	330
3,3'-Dichlorobenzidine		ND		170	330
Pentachlorophenol		ND		25	1700
Surrogate		%Rec		Acceptance Limits	
2-Fluorophenol		74		45 - 120	
Phenol-d5		74		48 - 120	
Nitrobenzene-d5		72		47 - 120	
2-Fluorobiphenyl		78		50 - 120	
2,4,6-Tribromophenol		91		56 - 120	
Terphenyl-d14		93		56 - 120	

## DATA REPORTING QUALIFIERS

Client: Kleinfelder Inc

Job Number: 560-950-1

Lab Section	Qualifier	Description
GC/MS VOA		
	B	Compound was found in the blank and sample.
	F	MS or MSD exceeds the control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
GC/MS Semi VOA		
	B	Compound was found in the blank and sample.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.



# **QUALITY CONTROL RESULTS**

## Quality Control Results

Client: Kleinfelder Inc

Job Number: 560-950-1

### Method Blank - Batch: 560-2782

Method: 8260B

Preparation: 5030B

Lab Sample ID: MB 560-2782/2  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 06/28/2006 1120  
Date Prepared: 06/28/2006 1120

Analysis Batch: 560-2782  
Prep Batch: N/A  
Units: ug/Kg

Instrument ID: Agilent GCMS [Method 8260]  
Lab File ID: 06280605.D  
Initial Weight/Volume: 5.00 g  
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	RL
Dichlorodifluoromethane	ND		0.40	5.0
Chloromethane	ND		0.40	5.0
Vinyl chloride	ND		0.40	5.0
Bromomethane	ND		0.75	5.0
Chloroethane	ND		0.40	5.0
Trichlorofluoromethane	ND		0.40	5.0
Ethyl ether	ND		0.40	5.0
1,1-Dichloroethene	ND		0.40	5.0
Carbon disulfide	ND		0.40	5.0
Iodomethane	ND		0.40	5.0
Acrolein	ND		5.0	50
Methylene Chloride	2.6	J	0.40	20
Acetone	10	J	1.4	20
trans-1,2-Dichloroethene	ND		0.40	5.0
Methyl tert-butyl ether	ND		0.40	5.0
Acetonitrile	ND		5.0	50
1,1-Dichloroethane	ND		0.40	5.0
Acrylonitrile	ND		5.0	50
Vinyl acetate	ND		0.44	5.0
cis-1,2-Dichloroethene	ND		0.40	5.0
2,2-Dichloropropane	ND		0.40	5.0
Chloroform	ND		0.40	5.0
Ethyl acetate	ND		1.0	5.0
Carbon tetrachloride	ND		0.40	5.0
1,1,1-Trichloroethane	ND		0.40	5.0
1,1-Dichloropropene	ND		0.40	5.0
Benzene	ND		0.40	5.0
1,2-Dichloroethane	ND		0.40	5.0
Trichloroethene	ND		0.40	5.0
Dibromomethane	ND		0.40	5.0
1,2-Dichloropropane	ND		0.40	5.0
Dichlorobromomethane	ND		1.0	5.0
Methyl methacrylate	ND		0.40	5.0
1,4-Dioxane	ND		10	100
cis-1,3-Dichloropropene	ND		1.0	5.0
Toluene	ND		0.40	5.0
2-Nitropropane	ND		1.0	5.0
methyl isobutyl ketone	ND		0.64	5.0
trans-1,3-Dichloropropene	ND		1.0	5.0
Tetrachloroethene	ND		0.40	5.0
Ethyl methacrylate	ND		1.0	5.0

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Kleinfelder Inc

Job Number: 560-950-1

### Method Blank - Batch: 560-2782

Lab Sample ID: MB 560-2782/2  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 06/28/2006 1120  
Date Prepared: 06/28/2006 1120

Analysis Batch: 560-2782  
Prep Batch: N/A  
Units: ug/Kg

### Method: 8260B Preparation: 5030B

Instrument ID: Agilent GCMS [Method 8260  
Lab File ID: 06280605.D  
Initial Weight/Volume: 5.00 g  
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	RL
1,1,2-Trichloroethane	ND		0.40	5.0
Chlorodibromomethane	ND		1.0	5.0
1,3-Dichloropropane	ND		0.40	5.0
Ethylene Dibromide	ND		0.40	5.0
2-Hexanone	ND		0.40	5.0
Chlorobenzene	ND		0.40	5.0
Ethylbenzene	ND		0.40	5.0
Bromoform	ND		1.0	5.0
Styrene	ND		1.0	5.0
1,1,2,2-Tetrachloroethane	ND		0.40	5.0
1,2,3-Trichloropropane	ND		0.40	5.0
1,3,5-Trimethylbenzene	ND		0.40	5.0
1,2,4-Trimethylbenzene	ND		0.40	5.0
1,2,3-Trichlorobenzene	ND		0.40	5.0
Methyl Ethyl Ketone	ND		0.43	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.40	5.0
Xylenes, Total	ND		0.40	15

Surrogate	% Rec	Acceptance Limits
Dibromofluoromethane (Surr)	102	50.0 - 126.0
1,2-Dichloroethane-d4	102	67.0 - 120.0
Toluene-d8	103	57.0 - 120.0
4-Bromofluorobenzene (Surr)	98	44.0 - 126.0

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Kleinfelder Inc

Job Number: 560-950-1

### Laboratory Control Sample - Batch: 560-2782

Method: 8260B

Preparation: 5030B

Lab Sample ID: LCS 560-2782/1  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 06/28/2006 1027  
Date Prepared: 06/28/2006 1027

Analysis Batch: 560-2782  
Prep Batch: N/A  
Units: ug/Kg

Instrument ID: Agilent GCMS [Method 8260]  
Lab File ID: 06280603.D  
Initial Weight/Volume: 5.00 g  
Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Dichlorodifluoromethane	50.0	54.5	109	55.0 - 142.0	
Chloromethane	50.0	54.4	109	75.0 - 141.0	
Vinyl chloride	50.0	55.0	110	74.0 - 129.0	
Bromomethane	50.0	51.8	104	48.0 - 158.0	
Chloroethane	50.0	53.1	106	80.0 - 136.0	
Trichlorofluoromethane	50.0	58.1	116	67.0 - 140.0	
Ethyl ether	50.0	56.2	112	80.0 - 131.0	
1,1-Dichloroethene	50.0	53.5	107	76.0 - 127.0	
Carbon disulfide	50.0	55.1	110	54.0 - 135.0	
Iodomethane	50.0	55.2	110	58.0 - 136.0	
Acrolein	500	365	73	50.0 - 166.0	
Methylene Chloride	50.0	56.9	114	74.0 - 137.0	
Acetone	50.0	60.8	122	56.0 - 181.0	
trans-1,2-Dichloroethene	50.0	53.7	107	80.0 - 123.0	
Methyl tert-butyl ether	50.0	53.5	107	78.0 - 126.0	
Acetonitrile	500	525	105	60.0 - 151.0	
1,1-Dichloroethane	50.0	53.2	106	79.0 - 123.0	
Acrylonitrile	500	504	101	73.0 - 123.0	
Vinyl acetate	50.0	62.0	124	67.0 - 165.0	
cis-1,2-Dichloroethene	50.0	52.1	104	80.0 - 123.0	
2,2-Dichloropropane	50.0	51.8	104	71.0 - 136.0	
Chloroform	50.0	51.9	104	80.0 - 122.0	
Ethyl acetate	50.0	49.6	99	69.0 - 128.0	
Carbon tetrachloride	50.0	54.6	109	80.0 - 127.0	
1,1,1-Trichloroethane	50.0	52.9	106	80.0 - 124.0	
1,1-Dichloropropene	50.0	49.3	99	77.0 - 120.0	
Benzene	50.0	52.3	105	79.0 - 120.0	
1,2-Dichloroethane	50.0	49.5	99	78.0 - 124.0	
Trichloroethene	50.0	50.1	100	80.0 - 120.0	
Dibromomethane	50.0	50.8	102	80.0 - 122.0	
1,2-Dichloropropane	50.0	51.6	103	80.0 - 120.0	
Dichlorobromomethane	50.0	55.2	110	80.0 - 122.0	
Methyl methacrylate	50.0	51.8	104	75.0 - 132.0	
1,4-Dioxane	1000	1010	101	77.0 - 135.0	
cis-1,3-Dichloropropene	50.0	44.8	90	77.0 - 120.0	
Toluene	50.0	51.6	103	80.0 - 122.0	
2-Nitropropane	50.0	53.7	107	44.0 - 132.0	
methyl isobutyl ketone	50.0	49.3	99	73.0 - 127.0	
trans-1,3-Dichloropropene	50.0	57.3	115	77.0 - 131.0	
Tetrachloroethene	50.0	49.3	99	73.0 - 121.0	
Ethyl methacrylate	50.0	46.0	92	45.0 - 121.0	
1,1,2-Trichloroethane	50.0	51.5	103	80.0 - 122.0	

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Kleinfelder Inc

Job Number: 560-950-1

### Laboratory Control Sample - Batch: 560-2782

Method: 8260B

Preparation: 5030B

Lab Sample ID: LCS 560-2782/1  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 06/28/2006 1027  
Date Prepared: 06/28/2006 1027

Analysis Batch: 560-2782  
Prep Batch: N/A  
Units: ug/Kg

Instrument ID: Agilent GCMS [Method 8260]  
Lab File ID: 06280603.D  
Initial Weight/Volume: 5.00 g  
Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chlorodibromomethane	50.0	55.2	110	78.0 - 121.0	
1,3-Dichloropropane	50.0	51.9	104	80.0 - 122.0	
Ethylene Dibromide	50.0	51.7	103	80.0 - 122.0	
2-Hexanone	50.0	53.3	107	75.0 - 128.0	
Chlorobenzene	50.0	52.2	104	80.0 - 120.0	
Ethylbenzene	50.0	51.9	104	79.0 - 123.0	
Bromoform	50.0	48.8	98	64.0 - 120.0	
Styrene	50.0	54.4	109	75.0 - 128.0	
1,1,2,2-Tetrachloroethane	50.0	49.8	100	77.0 - 120.0	
1,2,3-Trichloropropane	50.0	55.8	112	77.0 - 122.0	
1,3,5-Trimethylbenzene	50.0	50.0	100	76.0 - 122.0	
1,2,4-Trimethylbenzene	50.0	50.7	101	76.0 - 122.0	
1,2,3-Trichlorobenzene	50.0	48.3	97	61.0 - 145.0	
Methyl Ethyl Ketone	50.0	51.2	102	70.0 - 135.0	
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	50.6	101	64.0 - 120.0	
Xylenes, Total	150	153	102	79.0 - 123.0	
Surrogate	% Rec		Acceptance Limits		
Dibromofluoromethane (Surr)	106		50.0 - 126.0		
1,2-Dichloroethane-d4	103		67.0 - 120.0		
Toluene-d8	106		57.0 - 120.0		
4-Bromofluorobenzene (Surr)	105		44.0 - 126.0		

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Kleinfelder Inc

Job Number: 560-950-1

### Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 560-2782

Method: 8260B  
Preparation: 5030B

MS Lab Sample ID: 560-950-1  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 06/28/2006 1318  
Date Prepared: 06/28/2006 1318

Analysis Batch: 560-2782  
Prep Batch: N/A

Instrument ID: Agilent GCMS [Method 8260]  
Lab File ID: 06280608.D  
Initial Weight/Volume: 5.08 g  
Final Weight/Volume: 5 mL

MSD Lab Sample ID: 560-950-1  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 06/28/2006 1344  
Date Prepared: 06/28/2006 1344

Analysis Batch: 560-2782  
Prep Batch: N/A

Instrument ID: Agilent GCMS [Method 8260]  
Lab File ID: 06280609.D  
Initial Weight/Volume: 5.01 g  
Final Weight/Volume: 5 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Dichlorodifluoromethane	101	77	10.0 - 144.0	25.6	30.0		
Chloromethane	106	91	10.0 - 169.0	13.6	30.0		
Vinyl chloride	103	91	10.0 - 171.0	11.0	30.0		
Bromomethane	97	84	10.0 - 150.0	13.8	30.0		
Chloroethane	99	85	10.0 - 168.0	14.0	30.0		
Trichlorofluoromethane	104	91	10.0 - 164.0	11.9	30.0		
Ethyl ether	104	103	10.0 - 150.0	0.2	30.0		
1,1-Dichloroethene	100	89	10.0 - 161.0	10.2	30.0		
Carbon disulfide	98	80	10.0 - 150.0	18.6	30.0		
Iodomethane	102	91	10.0 - 149.0	10	30.0		
Acrolein	49	44	10.0 - 191.0	10.8	30.0		
Methylene Chloride	100	93	10.0 - 150.0	5.4	30.0	B	B
Acetone	75	60	10.0 - 268.0	6.7	30.0	B	B
trans-1,2-Dichloroethene	100	91	10.0 - 150.0	7.6	30.0		
Methyl tert-butyl ether	98	97	51.0 - 140.0	0.5	30.0		
Acetonitrile	94	89	10.0 - 207.0	3.6	30.0		
1,1-Dichloroethane	99	92	10.0 - 164.0	6.0	30.0		
Acrylonitrile	89	88	10.0 - 150.0	1	30.0		
Vinyl acetate	28	10	10.0 - 150.0	92.3	30.0		F
cis-1,2-Dichloroethene	97	91	10.0 - 150.0	4.9	30.0		
2,2-Dichloropropane	91	87	10.0 - 165.0	3.1	30.0		
Chloroform	96	90	10.0 - 163.0	4.6	30.0		
Ethyl acetate	58	41	10.0 - 133.0	33.5	30.0		F
Carbon tetrachloride	95	87	10.0 - 150.0	7.8	30.0		
1,1,1-Trichloroethane	96	90	10.0 - 150.0	5.1	30.0		
1,1-Dichloropropene	91	86	10.0 - 144.0	4.9	30.0		
Benzene	97	93	64.0 - 129.0	2.8	30.0		
1,2-Dichloroethane	91	91	17.0 - 155.0	1.4	30.0		
Trichloroethene	93	91	10.0 - 150.0	0.9	30.0		
Dibromomethane	93	94	10.0 - 150.0	2.9	30.0		

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Kleinfelder Inc

Job Number: 560-950-1

### Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 560-2782

Method: 8260B  
Preparation: 5030B

MS Lab Sample ID: 560-950-1  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 06/28/2006 1318  
Date Prepared: 06/28/2006 1318

Analysis Batch: 560-2782  
Prep Batch: N/A

Instrument ID: Agilent GCMS [Method 8260]  
Lab File ID: 06280608.D  
Initial Weight/Volume: 5.08 g  
Final Weight/Volume: 5 mL

MSD Lab Sample ID: 560-950-1  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 06/28/2006 1344  
Date Prepared: 06/28/2006 1344

Analysis Batch: 560-2782  
Prep Batch: N/A

Instrument ID: Agilent GCMS [Method 8260]  
Lab File ID: 06280609.D  
Initial Weight/Volume: 5.01 g  
Final Weight/Volume: 5 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
1,2-Dichloropropane	97	95	10.0 - 150.0	0.7	30.0		
Dichlorobromomethane	101	98	10.0 - 150.0	1.2	30.0		
Methyl methacrylate	103	126	10.0 - 192.0	21.7	30.0		
1,4-Dioxane	87	91	10.0 - 236.0	5.9	30.0		
cis-1,3-Dichloropropene	80	79	10.0 - 149.0	1.1	30.0		
Toluene	91	88	64.0 - 126.0	2.0	30.0		
2-Nitropropane	84	88	10.0 - 166.0	6.6	30.0		
methyl isobutyl ketone	87	95	10.0 - 150.0	9.5	30.0		
trans-1,3-Dichloropropene	101	103	10.0 - 150.0	3.8	30.0		
Tetrachloroethene	94	97	10.0 - 173.0	4.4	30.0		
Ethyl methacrylate	69	59	10.0 - 150.0	13.7	30.0		
1,1,2-Trichloroethane	94	98	10.0 - 163.0	5.9	30.0		
Chlorodibromomethane	96	98	10.0 - 148.0	2.9	30.0		
1,3-Dichloropropane	93	96	10.0 - 150.0	4.4	30.0		
Ethylene Dibromide	94	95	10.0 - 156.0	2.9	30.0		
2-Hexanone	90	100	10.0 - 156.0	11.3	30.0		
Chlorobenzene	96	95	10.0 - 150.0	0.3	30.0		
Ethylbenzene	95	94	61.0 - 127.0	0.5	30.0		
Bromoform	79	81	10.0 - 158.0	3.5	30.0		
Styrene	98	98	10.0 - 152.0	0.9	30.0		
1,1,2,2-Tetrachloroethane	92	96	10.0 - 150.0	5.4	30.0		
1,2,3-Trichloropropane	106	109	10.0 - 170.0	3.8	30.0		
1,3,5-Trimethylbenzene	92	93	10.0 - 150.0	3.1	30.0		
1,2,4-Trimethylbenzene	93	93	10.0 - 149.0	1.3	30.0		
1,2,3-Trichlorobenzene	59	64	10.0 - 150.0	8.7	30.0		
Methyl Ethyl Ketone	85	86	10.0 - 167.0	2.4	30.0		
1,1,2-Trichloro-1,2,2-trifluoroethane	93	83	10.0 - 150.0	10.4	30.0		
Xylenes, Total	93	92	10.0 - 144.0	0.1	30.0		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
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Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Kleinfelder Inc

Job Number: 560-950-1

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Dibromofluoromethane (Surr)	97	89	50.0 - 126.0
1,2-Dichloroethane-d4	92	91	67.0 - 120.0
Toluene-d8	97	93	57.0 - 120.0
4-Bromofluorobenzene (Surr)	94	89	44.0 - 126.0

Calculations are performed before rounding to avoid round-off errors in calculated results.



## Quality Control Results

Client: Kleinfelder Inc

Job Number: 560-950-1

### Matrix Spike/ Matrix Spike Duplicate Data Report - Batch: 560-2782

Method: 8260B  
Preparation: 5030B

MS Lab Sample ID: 560-950-1  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 06/28/2006 1318  
Date Prepared: 06/28/2006 1318

Units: ug/Kg

MSD Lab Sample ID: 560-950-1  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 06/28/2006 1344  
Date Prepared: 06/28/2006 1344

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual		
Dichlorodifluoromethane	0.0371	49.2	49.9	49.7	38.5		
Chloromethane	0.113	49.2	49.9	52.1	45.4		
Vinyl chloride	0.0293	49.2	49.9	50.5	45.2		
Bromomethane	0.0580	49.2	49.9	47.9	41.7		
Chloroethane	0.0293	49.2	49.9	48.6	42.2		
Trichlorofluoromethane	0.0119	49.2	49.9	51.1	45.4		
Ethyl ether	0.00635	49.2	49.9	51.2	51.3		
1,1-Dichloroethene	0.0272	49.2	49.9	49.4	44.6		
Carbon disulfide	0.207	49.2	49.9	48.4	40.1		
Iodomethane	0.0151	49.2	49.9	50.2	45.5		
Acrolein	0.0	492	499	243	218		
Methylene Chloride	5.27 J	49.2	49.9	54.4 B	51.6 B		
Acetone	72.9	49.2	49.9	110 B	103 B		
trans-1,2-Dichloroethene	0.0224	49.2	49.9	49.0	45.5		
Methyl tert-butyl ether	0.446 J	49.2	49.9	48.9	48.6		
Acetonitrile	0.211	492	499	461	445		
1,1-Dichloroethane	0.0122	49.2	49.9	48.5	45.7		
Acrylonitrile	0.292	492	499	437	441		
Vinyl acetate	0.0487	49.2	49.9	13.6	5.00		F
cis-1,2-Dichloroethene	0.00850	49.2	49.9	47.7	45.4		
2,2-Dichloropropane	0.00705	49.2	49.9	45.0	43.6		
Chloroform	0.0574	49.2	49.9	47.1	44.9		
Ethyl acetate	0.205	49.2	49.9	28.6	20.4		F
Carbon tetrachloride	0.0	49.2	49.9	46.8	43.2		
1,1,1-Trichloroethane	0.00860	49.2	49.9	47.1	44.8		
1,1-Dichloropropene	0.0526	49.2	49.9	45.0	42.9		
Benzene	0.0876	49.2	49.9	47.8	46.5		
1,2-Dichloroethane	0.0124	49.2	49.9	44.7	45.3		
Trichloroethene	0.207	49.2	49.9	45.8	45.4		
Dibromomethane	0.00795	49.2	49.9	45.7	47.0		
1,2-Dichloropropane	0.00459	49.2	49.9	47.7	47.3		
Dichlorobromomethane	0.0	49.2	49.9	49.6	49.0		
Methyl methacrylate	0.0	49.2	49.9	50.5	62.8		
1,4-Dioxane	0.0	984	998	859	912		
cis-1,3-Dichloropropene	0.00578	49.2	49.9	39.2	39.7		
Toluene	3.89 J	49.2	49.9	48.6	47.6		
2-Nitropropane	0.0	49.2	49.9	41.2	44.0		
methyl isobutyl ketone	0.113	49.2	49.9	43.0	47.3		
trans-1,3-Dichloropropene	0.0221	49.2	49.9	49.5	51.5		

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Kleinfelder Inc

Job Number: 560-950-1

### Matrix Spike/ Matrix Spike Duplicate Data Report - Batch: 560-2782

Method: 8260B  
Preparation: 5030B

MS Lab Sample ID: 560-950-1  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 06/28/2006 1318  
Date Prepared: 06/28/2006 1318

Units: ug/Kg

MSD Lab Sample ID: 560-950-1  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 06/28/2006 1344  
Date Prepared: 06/28/2006 1344

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Tetrachloroethene	0.0139	49.2	49.9	46.5	48.6
Ethyl methacrylate	0.137	49.2	49.9	33.7	29.4
1,1,2-Trichloroethane	0.0357	49.2	49.9	46.0	48.8
Chlorodibromomethane	0.00731	49.2	49.9	47.5	48.9
1,3-Dichloropropane	0.0154	49.2	49.9	46.0	48.1
Ethylene Dibromide	0.0451	49.2	49.9	46.2	47.6
2-Hexanone	0.137	49.2	49.9	44.5	49.8
Chlorobenzene	0.0186	49.2	49.9	47.2	47.3
Ethylbenzene	0.190	49.2	49.9	46.7	46.9
Bromoform	0.0133	49.2	49.9	39.0	40.4
Styrene	0.0333	49.2	49.9	48.3	48.8
1,1,2,2-Tetrachloroethane	0.0621	49.2	49.9	45.5	48.0
1,2,3-Trichloropropane	0.0324	49.2	49.9	52.3	54.3
1,3,5-Trimethylbenzene	0.766 J	49.2	49.9	45.9	47.4
1,2,4-Trimethylbenzene	0.411 J	49.2	49.9	46.0	46.6
1,2,3-Trichlorobenzene	0.0990	49.2	49.9	29.2	31.8
Methyl Ethyl Ketone	6.53 J	49.2	49.9	48.5	49.7
1,1,2-Trichloro-1,2,2-trifluoroethane	0.0116	49.2	49.9	45.8	41.3
Xylenes, Total	1.79 J	148	150	139	139

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Kleinfelder Inc

Job Number: 560-950-1

### Method Blank - Batch: 560-2843

Lab Sample ID: MB 560-2843/1-A  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 06/30/2006 1508  
Date Prepared: 06/29/2006 0830

Analysis Batch: 560-2899  
Prep Batch: 560-2843  
Units: ug/Kg

### Method: 8270C Preparation: 3550B

Instrument ID: Agilent GCMS [Method 8270  
Lab File ID: 06300603.D  
Initial Weight/Volume: 30 g  
Final Weight/Volume: 1 mL  
Injection Volume:

Analyte	Result	Qual	MDL	RL
Phenol	ND		17	330
Bis(2-chloroethyl)ether	ND		37	330
2-Chlorophenol	ND		28	330
1,3-Dichlorobenzene	ND		44	330
1,4-Dichlorobenzene	ND		46	330
Benzyl alcohol	ND		25	330
1,2-Dichlorobenzene	ND		52	330
2-Methylphenol	ND		33	330
2,2'-oxybis(2-chloropropane)	ND		41	330
3 & 4 Methylphenol	ND		17	330
N-Nitrosodi-n-propylamine	ND		17	330
Hexachloroethane	ND		50	330
Nitrobenzene	ND		36	330
Isophorone	ND		17	330
2-Nitrophenol	ND		17	330
2,4-Dimethylphenol	ND		20	330
Bis(2-chloroethoxy)methane	ND		17	330
2,4-Dichlorophenol	ND		23	330
1,2,4-Trichlorobenzene	ND		46	330
Naphthalene	ND		42	330
4-Chloroaniline	ND		47	330
Hexachlorobutadiene	ND		45	330
4-Chloro-3-methylphenol	ND		17	330
2-Methylnaphthalene	ND		31	330
Hexachlorocyclopentadiene	ND		170	670
2,4,6-Trichlorophenol	ND		17	330
2,4,5-Trichlorophenol	ND		17	330
2-Chloronaphthalene	ND		17	330
2-Nitroaniline	ND		22	330
Dimethyl phthalate	ND		17	330
Acenaphthylene	ND		17	330
2,6-Dinitrotoluene	ND		17	330
3-Nitroaniline	ND		26	330
Acenaphthene	ND		17	330
2,4-Dinitrophenol	ND		330	1700
4-Nitrophenol	ND		330	1700
Dibenzofuran	ND		17	330
2,4-Dinitrotoluene	ND		170	330
Diethyl phthalate	ND		17	330
Fluorene	ND		17	330
4-Chlorophenyl phenyl ether	ND		170	330

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Kleinfelder Inc

Job Number: 560-950-1

### Method Blank - Batch: 560-2843

Lab Sample ID: MB 560-2843/1-A  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 06/30/2006 1508  
Date Prepared: 06/29/2006 0830

Analysis Batch: 560-2899  
Prep Batch: 560-2843  
Units: ug/Kg

### Method: 8270C Preparation: 3550B

Instrument ID: Agilent GCMS [Method 8270  
Lab File ID: 06300603.D  
Initial Weight/Volume: 30 g  
Final Weight/Volume: 1 mL  
Injection Volume:

Analyte	Result	Qual	MDL	RL
4-Nitroaniline	ND		28	330
4,6-Dinitro-2-methylphenol	ND		170	1700
N-Nitrosodiphenylamine	ND		17	330
4-Bromophenyl phenyl ether	ND		17	330
Hexachlorobenzene	ND		17	330
Phenanthrene	ND		17	330
Anthracene	ND		17	330
Di-n-butyl phthalate	ND		17	330
Fluoranthene	ND		17	330
Pyrene	ND		17	330
Butyl benzyl phthalate	ND		17	330
Benzo[a]anthracene	ND		17	330
Chrysene	ND		17	330
Bis(2-ethylhexyl) phthalate	28	J	17	330
Di-n-octyl phthalate	ND		17	330
Benzo[b]fluoranthene	23	J	17	330
Benzo[k]fluoranthene	29	J	17	330
Benzo[a]pyrene	27	J	17	330
Indeno[1,2,3-cd]pyrene	19	J	17	330
Dibenz(a,h)anthracene	20	J	17	330
Benzo[g,h,i]perylene	20	J	17	330
3,3'-Dichlorobenzidine	ND		170	330
Pentachlorophenol	ND		25	1700

Surrogate	% Rec	Acceptance Limits
2-Fluorophenol	79	45 - 120
Phenol-d5	79	48 - 120
Nitrobenzene-d5	78	47 - 120
2-Fluorobiphenyl	81	50 - 120
2,4,6-Tribromophenol	85	56 - 120
Terphenyl-d14	95	56 - 120

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Kleinfelder Inc

Job Number: 560-950-1

### Laboratory Control Sample - Batch: 560-2843

Method: 8270C

Preparation: 3550B

Lab Sample ID: LCS 560-2843/2-A

Client Matrix: Solid

Dilution: 1.0

Date Analyzed: 06/30/2006 1536

Date Prepared: 06/29/2006 0830

Analysis Batch: 560-2899

Prep Batch: 560-2843

Units: ug/Kg

Instrument ID: Agilent GCMS [Method 827

Lab File ID: 06300604.D

Initial Weight/Volume: 30 g

Final Weight/Volume: 1 mL

Injection Volume:

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Phenol	3330	2550	76	55 - 120	
Bis(2-chloroethyl)ether	3330	2350	70	52 - 120	
2-Chlorophenol	3330	2510	75	54 - 120	
1,3-Dichlorobenzene	3330	2340	70	53 - 120	
1,4-Dichlorobenzene	3330	2370	71	54 - 120	
Benzyl alcohol	3330	2700	81	52 - 120	
1,2-Dichlorobenzene	3330	2340	70	53 - 120	
2-Methylphenol	3330	2560	77	56 - 120	
2,2'-oxybis(2-chloropropane)	3330	2340	70	52 - 120	
3 & 4 Methylphenol	6670	4810	72	49 - 120	
N-Nitrosodi-n-propylamine	3330	2240	67	49 - 120	
Hexachloroethane	3330	2280	69	53 - 120	
Nitrobenzene	3330	2450	73	54 - 120	
Isophorone	3330	2520	76	52 - 120	
2-Nitrophenol	3330	2520	76	53 - 120	
2,4-Dimethylphenol	3330	2650	79	68 - 120	
Bis(2-chloroethoxy)methane	3330	2560	77	55 - 120	
2,4-Dichlorophenol	3330	2600	78	57 - 120	
1,2,4-Trichlorobenzene	3330	2480	75	55 - 120	
Naphthalene	3330	2530	76	57 - 120	
4-Chloroaniline	3330	1710	51	22 - 120	
Hexachlorobutadiene	3330	2430	73	55 - 120	
4-Chloro-3-methylphenol	3330	2730	82	58 - 120	
2-Methylnaphthalene	3330	2510	75	55 - 120	
Hexachlorocyclopentadiene	3330	2300	69	44 - 120	
2,4,6-Trichlorophenol	3330	2730	82	56 - 120	
2,4,5-Trichlorophenol	3330	2760	83	58 - 120	
2-Chloronaphthalene	3330	2620	79	50 - 120	
2-Nitroaniline	3330	2770	83	56 - 120	
Dimethyl phthalate	3330	2800	84	58 - 120	
Acenaphthylene	3330	2730	82	58 - 120	
2,6-Dinitrotoluene	3330	2830	85	57 - 120	
3-Nitroaniline	3330	2330	70	33 - 120	
Acenaphthene	3330	2760	83	59 - 120	
2,4-Dinitrophenol	3330	2550	76	47 - 120	
4-Nitrophenol	3330	2660	80	59 - 124	
Dibenzofuran	3330	2700	81	56 - 120	
2,4-Dinitrotoluene	3330	2740	82	56 - 120	
Diethyl phthalate	3330	2800	84	60 - 120	
Fluorene	3330	2780	83	61 - 120	
4-Chlorophenyl phenyl ether	3330	2790	84	60 - 120	
4-Nitroaniline	3330	2810	84	55 - 120	

Calculations are performed before rounding to avoid round-off errors in calculated results.



## Quality Control Results

Client: Kleinfelder Inc

Job Number: 560-950-1

### Laboratory Control Sample - Batch: 560-2843

Method: 8270C

Preparation: 3550B

Lab Sample ID: LCS 560-2843/2-A

Client Matrix: Solid

Dilution: 1.0

Date Analyzed: 06/30/2006 1536

Date Prepared: 06/29/2006 0830

Analysis Batch: 560-2899

Prep Batch: 560-2843

Units: ug/Kg

Instrument ID: Agilent GCMS [Method 827

Lab File ID: 06300604.D

Initial Weight/Volume: 30 g

Final Weight/Volume: 1 mL

Injection Volume:

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
4,6-Dinitro-2-methylphenol	3330	2860	86	55 - 120	
N-Nitrosodiphenylamine	3330	2680	80	57 - 120	
4-Bromophenyl phenyl ether	3330	2930	88	60 - 120	
Hexachlorobenzene	3330	2900	87	61 - 120	
Phenanthrene	3330	2890	87	63 - 120	
Anthracene	3330	2860	86	63 - 120	
Di-n-butyl phthalate	3330	2880	86	63 - 120	
Fluoranthene	3330	2830	85	65 - 120	
Pyrene	3330	3050	92	63 - 120	
Butyl benzyl phthalate	3330	3000	90	64 - 120	
Benzo[a]anthracene	3330	3000	90	62 - 120	
Chrysene	3330	2970	89	65 - 120	
Bis(2-ethylhexyl) phthalate	3330	2980	89	66 - 120	
Di-n-octyl phthalate	3330	2990	90	65 - 120	
Benzo[b]fluoranthene	3330	3280	98	62 - 120	
Benzo[k]fluoranthene	3330	2770	83	52 - 120	
Benzo[a]pyrene	3330	3020	91	63 - 120	
Indeno[1,2,3-cd]pyrene	3330	3200	96	63 - 120	
Dibenz(a,h)anthracene	3330	3200	96	63 - 120	
Benzo[g,h,i]perylene	3330	3070	92	62 - 120	
3,3'-Dichlorobenzidine	3330	2930	88	34 - 120	
Pentachlorophenol	3330	2820	85	52 - 120	

Surrogate	% Rec	Acceptance Limits
2-Fluorophenol	77	45 - 120
Phenol-d5	77	48 - 120
Nitrobenzene-d5	76	47 - 120
2-Fluorobiphenyl	80	50 - 120
2,4,6-Tribromophenol	90	56 - 120
Terphenyl-d14	95	56 - 120

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Kleinfelder Inc

Job Number: 560-950-1

### Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 560-2843

**Method: 8270C**  
**Preparation: 3550B**

MS Lab Sample ID: 560-936-B-6-E MS  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 06/30/2006 1604  
Date Prepared: 06/29/2006 0830

Analysis Batch: 560-2899  
Prep Batch: 560-2843

Instrument ID: Agilent GCMS [Method 827  
Lab File ID: 06300605.D  
Initial Weight/Volume: 30 g  
Final Weight/Volume: 1 mL  
Injection Volume:

MSD Lab Sample ID: 560-936-B-6-F MSD  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 06/30/2006 1632  
Date Prepared: 06/29/2006 0830

Analysis Batch: 560-2899  
Prep Batch: 560-2843

Instrument ID: Agilent GCMS [Method 827  
Lab File ID: 06300606.D  
Initial Weight/Volume: 30 g  
Final Weight/Volume: 1 mL  
Injection Volume:

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Phenol	74	82	48 - 120	10.8	30.0		
Bis(2-chloroethyl)ether	64	68	46 - 120	5.7	30.0		
2-Chlorophenol	69	77	48 - 120	11.4	30.0		
1,3-Dichlorobenzene	63	66	44 - 120	4.5	30.0		
1,4-Dichlorobenzene	64	67	44 - 120	5.4	30.0		
Benzyl alcohol	79	88	46 - 120	10.5	30.0		
1,2-Dichlorobenzene	63	67	45 - 120	6.9	30.0		
2-Methylphenol	76	84	52 - 120	10.6	30.0		
2,2'-oxybis(2-chloropropane)	62	67	47 - 120	6.5	30.0		
3 & 4 Methylphenol	74	80	48 - 120	8.1	30.0		
N-Nitrosodi-n-propylamine	63	69	40 - 120	9.0	30.0		
Hexachloroethane	61	66	10 - 150	7.2	30.0		
Nitrobenzene	66	74	39 - 120	11.4	30.0		
Isophorone	72	80	46 - 120	10.1	30.0		
2-Nitrophenol	71	84	46 - 120	15.8	30.0		
2,4-Dimethylphenol	79	85	59 - 125	7.6	30.0		
Bis(2-chloroethoxy)methane	70	79	47 - 120	12.6	30.0		
2,4-Dichlorophenol	80	88	53 - 120	10.4	30.0		
1,2,4-Trichlorobenzene	66	75	47 - 120	12.9	30.0		
Naphthalene	69	77	39 - 120	11.6	30.0		
4-Chloroaniline	50	55	26 - 120	9.5	30.0		
Hexachlorobutadiene	63	72	45 - 120	12.9	30.0		
4-Chloro-3-methylphenol	84	89	54 - 120	6.4	30.0		
2-Methylnaphthalene	72	80	10 - 150	10.3	30.0		
Hexachlorocyclopentadiene	65	67	10 - 120	1.8	30.0		
2,4,6-Trichlorophenol	83	88	53 - 120	6.5	30.0		
2,4,5-Trichlorophenol	84	87	59 - 120	4.4	30.0		
2-Chloronaphthalene	78	83	46 - 120	6.9	30.0		
2-Nitroaniline	83	85	55 - 120	2.2	30.0		
Dimethyl phthalate	83	86	54 - 120	4.3	30.0		

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Kleinfelder Inc

Job Number: 560-950-1

### Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 560-2843

**Method: 8270C**  
**Preparation: 3550B**

MS Lab Sample ID: 560-936-B-6-E MS  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 06/30/2006 1604  
Date Prepared: 06/29/2006 0830

Analysis Batch: 560-2899  
Prep Batch: 560-2843

Instrument ID: Agilent GCMS [Method 827  
Lab File ID: 06300605.D  
Initial Weight/Volume: 30 g  
Final Weight/Volume: 1 mL  
Injection Volume:

MSD Lab Sample ID: 560-936-B-6-F MSD  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 06/30/2006 1632  
Date Prepared: 06/29/2006 0830

Analysis Batch: 560-2899  
Prep Batch: 560-2843

Instrument ID: Agilent GCMS [Method 827  
Lab File ID: 06300606.D  
Initial Weight/Volume: 30 g  
Final Weight/Volume: 1 mL  
Injection Volume:

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Acenaphthylene	82	87	57 - 120	5.5	30.0		
2,6-Dinitrotoluene	85	90	53 - 120	6.1	30.0		
3-Nitroaniline	65	71	41 - 120	8.4	30.0		
Acenaphthene	82	86	57 - 120	5.6	30.0		
2,4-Dinitrophenol	89	101	18 - 120	13.1	30.0		
4-Nitrophenol	82	87	58 - 120	5.5	30.0		
Dibenzofuran	80	85	53 - 120	6.0	30.0		
2,4-Dinitrotoluene	84	87	52 - 120	3.5	30.0		
Diethyl phthalate	82	86	56 - 120	4.0	30.0		
Fluorene	82	87	59 - 120	6.1	30.0		
4-Chlorophenyl phenyl ether	82	87	54 - 120	5.8	30.0		
4-Nitroaniline	70	76	49 - 120	7.4	30.0		
4,6-Dinitro-2-methylphenol	93	101	48 - 120	9.0	30.0		
N-Nitrosodiphenylamine	78	81	38 - 125	4.4	30.0		
4-Bromophenyl phenyl ether	86	90	56 - 120	4.2	30.0		
Hexachlorobenzene	85	88	55 - 120	3.9	30.0		
Phenanthrene	85	88	44 - 125	3.1	30.0		
Anthracene	84	88	57 - 120	4.1	30.0		
Di-n-butyl phthalate	85	88	57 - 120	3.3	30.0		
Fluoranthene	84	87	44 - 131	3.5	30.0		
Pyrene	90	93	48 - 127	3.3	30.0		
Butyl benzyl phthalate	91	93	60 - 123	2.4	30.0		
Benzo[a]anthracene	88	91	56 - 120	3.0	30.0		
Chrysene	87	89	53 - 123	2.7	30.0		
Bis(2-ethylhexyl) phthalate	89	92	62 - 123	2.7	30.0		
Di-n-octyl phthalate	90	95	66 - 120	4.8	30.0		
Benzo[b]fluoranthene	90	92	63 - 120	2.5	30.0		
Benzo[k]fluoranthene	88	90	37 - 127	2.6	30.0		
Benzo[a]pyrene	89	91	51 - 122	3.1	30.0		
Indeno[1,2,3-cd]pyrene	94	97	58 - 120	3.3	30.0		

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Kleinfelder Inc

Job Number: 560-950-1

### Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 560-2843

**Method: 8270C**  
**Preparation: 3550B**

MS Lab Sample ID: 560-936-B-6-E MS  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 06/30/2006 1604  
Date Prepared: 06/29/2006 0830

Analysis Batch: 560-2899  
Prep Batch: 560-2843

Instrument ID: Agilent GCMS [Method 827  
Lab File ID: 06300605.D  
Initial Weight/Volume: 30 g  
Final Weight/Volume: 1 mL  
Injection Volume:

MSD Lab Sample ID: 560-936-B-6-F MSD  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 06/30/2006 1632  
Date Prepared: 06/29/2006 0830

Analysis Batch: 560-2899  
Prep Batch: 560-2843

Instrument ID: Agilent GCMS [Method 827  
Lab File ID: 06300606.D  
Initial Weight/Volume: 30 g  
Final Weight/Volume: 1 mL  
Injection Volume:

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Dibenz(a,h)anthracene	93	96	61 - 120	3.2	30.0		
Benzo[g,h,i]perylene	88	93	58 - 120	4.9	30.0		
3,3'-Dichlorobenzidine	39	47	31 - 120	19.9	30.0		
Pentachlorophenol	88	93	44 - 120	5.7	30.0		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
2-Fluorophenol	68	75	45 - 120
Phenol-d5	74	81	48 - 120
Nitrobenzene-d5	67	74	47 - 120
2-Fluorobiphenyl	78	83	50 - 120
2,4,6-Tribromophenol	88	92	56 - 120
Terphenyl-d14	92	95	56 - 120

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Kleinfelder Inc

Job Number: 560-950-1

### Matrix Spike/ Matrix Spike Duplicate Data Report - Batch: 560-2843

Method: 8270C  
Preparation: 3550B

MS Lab Sample ID: 560-936-B-6-E MS  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 06/30/2006 1604  
Date Prepared: 06/29/2006 0830

Units: ug/Kg

MSD Lab Sample ID: 560-936-B-6-F MSD  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 06/30/2006 1632  
Date Prepared: 06/29/2006 0830

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Phenol	4.46	3330	3330	2460	2740
Bis(2-chloroethyl)ether	2.50	3330	3330	2140	2270
2-Chlorophenol	0.387	3330	3330	2300	2580
1,3-Dichlorobenzene	0.0	3330	3330	2100	2200
1,4-Dichlorobenzene	0.0	3330	3330	2120	2240
Benzyl alcohol	9.11	3330	3330	2630	2930
1,2-Dichlorobenzene	0.0	3330	3330	2090	2240
2-Methylphenol	6.37	3330	3330	2520	2800
2,2'-oxybis(2-chloropropane)	0.850	3330	3330	2080	2220
3 & 4 Methylphenol	1.76	6670	6670	4910	5320
N-Nitrosodi-n-propylamine	0.0	3330	3330	2110	2310
Hexachloroethane	0.0	3330	3330	2040	2200
Nitrobenzene	10.2	3330	3330	2190	2450
Isophorone	0.0	3330	3330	2400	2660
2-Nitrophenol	0.0	3330	3330	2380	2790
2,4-Dimethylphenol	0.727	3330	3330	2630	2840
Bis(2-chloroethoxy)methane	4.42	3330	3330	2320	2630
2,4-Dichlorophenol	0.0	3330	3330	2660	2950
1,2,4-Trichlorobenzene	0.0	3330	3330	2190	2500
Naphthalene	1.54	3330	3330	2300	2580
4-Chloroaniline	0.298	3330	3330	1660	1820
Hexachlorobutadiene	0.0	3330	3330	2110	2400
4-Chloro-3-methylphenol	1.99	3330	3330	2800	2980
2-Methylnaphthalene	0.748	3330	3330	2410	2670
Hexachlorocyclopentadiene	0.0	3330	3330	2180	2220
2,4,6-Trichlorophenol	0.0	3330	3330	2760	2950
2,4,5-Trichlorophenol	0.0	3330	3330	2790	2910
2-Chloronaphthalene	1.21	3330	3330	2580	2770
2-Nitroaniline	0.958	3330	3330	2780	2840
Dimethyl phthalate	0.0	3330	3330	2760	2880
Acenaphthylene	0.528	3330	3330	2730	2890
2,6-Dinitrotoluene	0.0	3330	3330	2830	3010
3-Nitroaniline	15.6	3330	3330	2170	2360
Acenaphthene	0.407	3330	3330	2720	2870
2,4-Dinitrophenol	0.0	3330	3330	2960	3380
4-Nitrophenol	1.02	3330	3330	2740	2900
Dibenzofuran	0.417	3330	3330	2670	2830
2,4-Dinitrotoluene	0.0	3330	3330	2790	2890
Diethyl phthalate	1.83	3330	3330	2750	2860

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Kleinfelder Inc

Job Number: 560-950-1

### Matrix Spike/ Matrix Spike Duplicate Data Report - Batch: 560-2843

Method: 8270C  
Preparation: 3550B

MS Lab Sample ID: 560-936-B-6-E MS  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 06/30/2006 1604  
Date Prepared: 06/29/2006 0830

Units: ug/Kg

MSD Lab Sample ID: 560-936-B-6-F MSD  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 06/30/2006 1632  
Date Prepared: 06/29/2006 0830

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Fluorene	1.29	3330	3330	2720	2900
4-Chlorophenyl phenyl ether	2.98	3330	3330	2740	2910
4-Nitroaniline	1.19	3330	3330	2350	2530
4,6-Dinitro-2-methylphenol	0.0	3330	3330	3090	3380
N-Nitrosodiphenylamine	0.0	3330	3330	2590	2700
4-Bromophenyl phenyl ether	0.0	3330	3330	2880	3000
Hexachlorobenzene	0.0	3330	3330	2820	2940
Phenanthrene	1.64	3330	3330	2830	2920
Anthracene	0.795	3330	3330	2800	2920
Di-n-butyl phthalate	3.22	3330	3330	2820	2920
Fluoranthene	2.70	3330	3330	2790	2880
Pyrene	2.40	3330	3330	3000	3100
Butyl benzyl phthalate	8.68	3330	3330	3020	3100
Benzo[a]anthracene	4.70	3330	3330	2940	3030
Chrysene	2.13	3330	3330	2890	2970
Bis(2-ethylhexyl) phthalate	0.0	3330	3330	2980	3060
Di-n-octyl phthalate	5.17	3330	3330	3010	3160
Benzo[b]fluoranthene	7.96	3330	3330	3000	3080
Benzo[k]fluoranthene	7.84	3330	3330	2930	3010
Benzo[a]pyrene	3.11	3330	3330	2950	3050
Indeno[1,2,3-cd]pyrene	9.21	3330	3330	3130	3240
Dibenz(a,h)anthracene	8.13	3330	3330	3110	3210
Benzo[g,h,i]perylene	9.50	3330	3330	2950	3100
3,3'-Dichlorobenzidine	0.494	3330	3330	1290	1580
Pentachlorophenol	0.0	3330	3330	2940	3110

Calculations are performed before rounding to avoid round-off errors in calculated results.



## Quality Control Results

Client: Kleinfelder Inc

Job Number: 560-950-1

### Laboratory Chronicle

Client Samples:

Lab ID: 950-1 Client ID: SR - EAST SAND 4.5'-5'

Sample Date/Time: 06/26/2006 1025 Received Date/Time: 06/26/2006 1233

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Analyzed	Dilution	Lab	Analyst
A-8260B	560-950-B-1	1	560-2782		06/28/2006 1146	1.00	COR	KRM
P-3550B	560-950-A-1	1	560-2843		06/29/2006 0830	1.00	COR	LPM
A-8270C	560-950-A-1-A	1	560-2899	560-2843	07/01/2006 0001	1.00	COR	GEF

Lab ID: 950-1MS Client ID: SR - EAST SAND 4.5'-5'

Sample Date/Time: 06/26/2006 1025 Received Date/Time: 06/26/2006 1233

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Analyzed	Dilution	Lab	Analyst
A-8260B	560-950-B-1	1	560-2782		06/28/2006 1318	1.00	COR	KRM

Lab ID: 950-1MSD Client ID: SR - EAST SAND 4.5'-5'

Sample Date/Time: 06/26/2006 1025 Received Date/Time: 06/26/2006 1233

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Analyzed	Dilution	Lab	Analyst
A-8260B	560-950-B-1	1	560-2782		06/28/2006 1344	1.00	COR	KRM

Lab ID: 950-2 Client ID: SR - WEST SAND 5'

Sample Date/Time: 06/26/2006 1046 Received Date/Time: 06/26/2006 1233

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Analyzed	Dilution	Lab	Analyst
A-8260B	560-950-B-2	1	560-2782		06/28/2006 1212	1.00	COR	KRM
P-3550B	560-950-A-2	1	560-2843		06/29/2006 0830	1.00	COR	LPM
A-8270C	560-950-A-2-A	1	560-2899	560-2843	07/01/2006 0029	1.00	COR	GEF

Lab ID: 936-6 Client ID: SR - EAST SAND 4.5'-5'

Sample Date/Time: 06/26/2006 1025 Received Date/Time: 06/26/2006 1233

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Analyzed	Dilution	Lab	Analyst
A-8270C	560-936-B-6-D	1	560-2899	560-2843	06/30/2006 1728	1.00	COR	GEF

STL Corpus Christi

## Quality Control Results

Client: Kleinfelder Inc

Job Number: 560-950-1

### Laboratory Chronicle

Client Samples:

**Lab ID: 936-6MS**                      **Client ID: SR - EAST SAND 4.5'-5'**

Sample Date/Time: 06/26/2006 1025      Received Date/Time: 06/26/2006 1233

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Analyzed	Dilution	Lab	Analyst
A-8270C	560-936-B-6-E	1	560-2899	560-2843	06/30/2006 1604	1.00	COR	GEF

**Lab ID: 936-6MSD**                      **Client ID: SR - EAST SAND 4.5'-5'**

Sample Date/Time: 06/26/2006 1025      Received Date/Time: 06/26/2006 1233

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Analyzed	Dilution	Lab	Analyst
A-8270C	560-936-B-6-F	1	560-2899	560-2843	06/30/2006 1632	1.00	COR	GEF

**Lab ID: MB**                                  **Client ID: MB**

Sample Date/Time: NA                      Received Date/Time: NA

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Analyzed	Dilution	Lab	Analyst
A-8260B		1	560-2782		06/28/2006 1120	1.00	COR	KRM
A-8270C		1	560-2899	560-2843	06/30/2006 1508	1.00	COR	GEF

**Lab ID: LCS**                                  **Client ID: LCS**

Sample Date/Time: NA                      Received Date/Time: NA

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Analyzed	Dilution	Lab	Analyst
A-8260B		1	560-2782		06/28/2006 1027	1.00	COR	KRM
A-8270C		1	560-2899	560-2843	06/30/2006 1536	1.00	COR	GEF

**STL Corpus Christi**

1733 N. Padre Island Drive  
Corpus Christi, TX 78408

18.0 on ice  
just sampled

No. 007765

## CHAIN OF CUSTODY RECORD

[illegible]

## LOGIN SAMPLE RECEIPT CHECK LIST

Client: Kleinfelder Inc

Job Number: 560-950-1

**Login Number: 950**

Question	T/F/NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	NA	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	NA	
Samples do not require splitting or compositing.	NA	

## **APPENDIX D**



# NATIONAL OIL RECOVERY CORPORATION

2006

ANNUAL

CORROSION MITIGATION SURVEY

8" LIQUIDE PIPELINE (CRUDE)

WAI JOB #090

JULY 12, 2006

WENDEL & ASSOCIATES, INC.

CORROSION SERVICES





July 12, 2006

**National Oil Recovery Corporation**  
1472 FM 2725  
Ingleside, Texas 78362

Re: **8" Liquide Pipeline (Crude)**  
2006 Annual Corrosion Mitigation Survey  
Job #090

The following report concerns the recently conducted Annual Corrosion Mitigation Survey of National Oil Recovery Corporation's **8" Liquide Pipeline (Crude)** system (Leased to Superior Crude Gathering) located in Ingleside, Texas. This survey was conducted in accordance with the Texas Railroad Commission's Pipeline Safety Regulations.

Wendel & Associates, Inc. is a twenty-six-year member of the National Association of Corrosion Engineers and is a member of the Contractors Safety Council. Wendel & Associates, Inc. Corrosion Service presently has a drug policy which meets or exceeds all Department of Transportation criteria and the Texas Railroad Commission's Pipeline Safety Regulations, 49 CFR § 199.1 - Drug Testing. Wendel & Associates, Inc. is Operator Qualified as required by 49 CFR § 192.801-809 and/or 49 CFR § 195.501-509.

#### **INITIAL STATUS & GENERAL INFORMATION**

The **8" Liquide Pipeline (Crude)** consists of approximately 2,200 feet of 8 5/8", Trident, .312 WT, API X42, and TGFIII coated and wrapped pipe extending from 8" Riser at Pig Trap (Dock Facility) to 8" Riser at Pig Trap (Pipe Rack) at CR 4714. The system is presently being protected by a sacrificial cathodic protection system.

#### **SURVEY PROCEDURES**

As referenced to a copper/copper sulfate electrode, pipe-to-soil potential readings were taken at pre-established locations throughout the facility. Dielectric fittings were checked for effectiveness. Sacrificial anode stations were read and evaluated. A visual inspection of the system was conducted and there were no signs of any surface leaks or abnormal conditions. Atmospheric corrosion is present. All pertinent data is recorded in the "Data" and "Recommendations" sections of this report.

During the course of the survey, IR drop was taken into consideration.



**National Oil Recovery Corporation**  
**8" Liquide Pipeline (Crude)**  
2006 Annual Corrosion Mitigation Survey  
July 12, 2006  
Page Two

### **SUMMARY OF DATA & DISCUSSION**

As can be found in the "Data" section of this report, all referenced pipe-to-soil potential readings are above the -850 millivolt criteria established as an effective level of cathodic protection by the National Association of Corrosion Engineers.

### **RECOMMENDATIONS**

The following recommendations are presented to ensure the system will continue to function in an effective and efficient manner:

1. It is recommended atmospheric corrosion be addressed in accordance with 49 CFR § 195.479 (see data & photos).
2. It is recommended damaged casing vents be repaired (see photo).
3. It is recommended damage test stations be repaired or replaced in accordance with 49 CFR § 195.469 (see data & photo).
4. It is recommended line markers be repaired (where damaged) and replaced to reflect the correct company contact information in accordance with 49 CFR § 195.707 (see photos).
5. It is recommended the right-of-way be addressed and maintained in accordance with 49 CFR § 195.705.
6. It is recommended the deterioration of pipeline coating be evaluated and addressed in accordance with 49 CFR § 195.459 (Damage Prevention).
7. It is recommended the system be re-surveyed on an annual basis by an experienced technician to ensure the desired results are being achieved.
8. It is recommended Wendel & Associates, Inc., Corrosion Services be contacted should any changes to this system occur as cathodic protection needs may change as well.



• Pipeline Patrol Report •

**Company:** National Oil Recovery Corporation  
**System:** 8" Liquide Pipeline (Crude)  
**Date of Patrol:** July 12, 2006  
**Type of Patrol:** Vehicle/Foot (Vehicle / Foot / Boat / Aerial / Other)  
**Persons Involved:** Allen M. Paizs

**Description of** 8" Riser @ Pig Trap (Dock Facility) to 8" Riser at  
**Patrol Point:** Pig Trap (Pipe Rack) at CR 4714

Conditions Noted	•Yes•	•No•	Remarks
Atmospheric Corrosion?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>See data &amp; photos</u>
Erosion Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>
Exposed Pipe?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>See photo</u>
Inadequate Signage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>Incorrect company information</u>
Inadequate Supports?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>
Gas Leaks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>
Hazards Exist?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u></u>
ROW Condition Bad?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>Needs to be addressed (see photo)</u>
Damages Noted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>TL/Mag Station Damaged</u>

**Remarks:** 2006 Annual Corrosion Mitigation Survey

**Signature:** Allen M Paizs **Date:** July 12, 2006  
**Technician:** Allen M. Paizs  
**O.Q. Certified**



# WENDEL & ASSOCIATES, INC.

Compliance Survey Report

NATIONAL OIL REC. CO; 090-001

Filters: 1. Survey = 2006 Annual Survey

Options: Include Survey Header Information

Surveyor: AMP

Oil Conditions: Damp

Meter: Fluke 73III

Reference: CSE

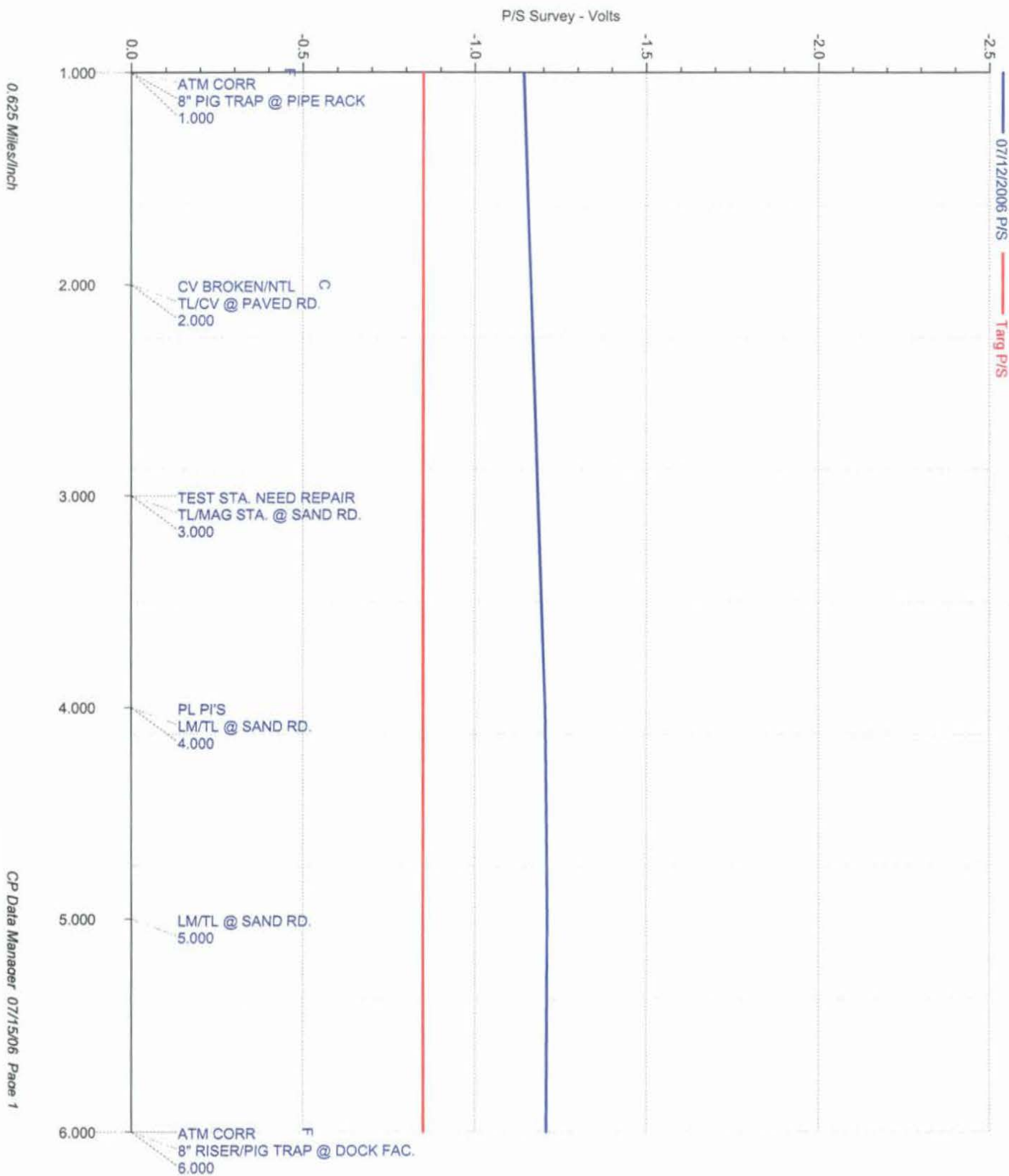
<u>Survey Date</u>	<u>Relative Milepost</u>	<u>Location</u>	<u>Structure P/S</u>	<u>Casing P/S</u>	<u>Casing Status</u>	<u>Foreign P/S</u>	<u>Insul Stat</u>	<u>Amps</u>	<u>Survey Remarks</u>
Company:									
Category: NATIONAL OIL REC.									
Row Code: 090-001									
Row Name: 8" Liquid Pipeline (Crude)									
07/12/2006	1.000	8" PIG TRAP @ PIPE RACK	-1.143						ATM CORR
07/12/2006	2.000	TL/CV @ PAVED RD.		-0.565	OK				CV BROKEN/NTL
07/12/2006	3.000	TL/MAG STA. @ SAND RD.							TEST STA. NEED REPAIR
07/12/2006	4.000	LM/TL @ SAND RD.	-1.205						PL P/S
07/12/2006	5.000	LM/TL @ SAND RD.	-1.212						
07/12/2006	6.000	8" RISER/PIG TRAP @ DOCK FAC.	-1.208					-0.516 OK	ATM CORR

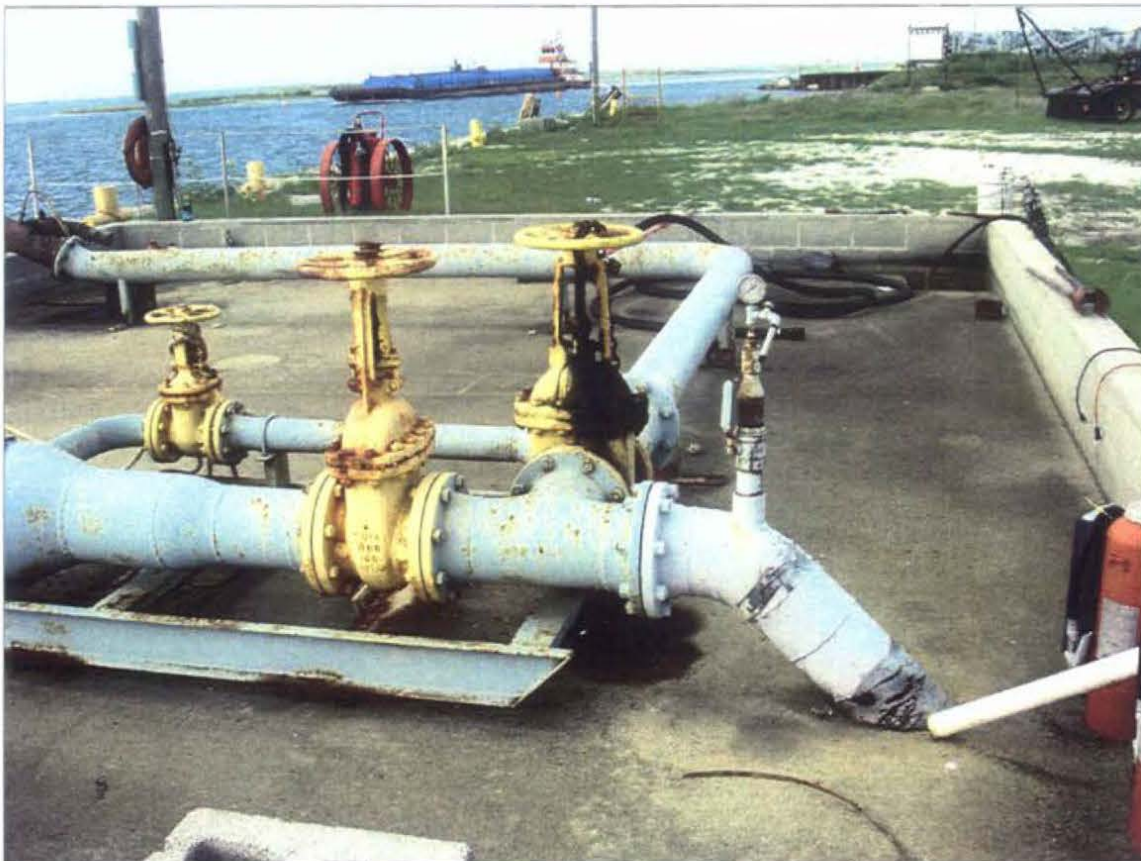
Surveyor

*Allen M. Paige*

# WENDEL & ASSOCIATES, INC.

ROW: 090-001; 8" Liquid Pipeline (Crude)





**NATIONAL OIL RECOVERY CORPORATION  
8" LIQUIDS PL (CRUDE)  
LEASED TO SUPERIOR CRUDE GATHERING  
8" RISER @ PIGTRAP (DOCK FACILITY)  
ATM CORROSION  
7.12.2006**





**NATIONAL OIL RECOVERY CORPORATION  
8" LIQUIDS PL (CRUDE)  
LEASED TO SUPERIOR CRUDE GATHERING  
8" RISER @ PIGTRAP (DOCK FACILITY)  
ATM CORROSION @ RISER/CONCRETE  
7.12.2006**



**NATIONAL OIL RECOVERY CORPORATION  
8" LIQUIDS PL (CRUDE)  
LEASED TO SUPERIOR CRUDE GATHERING  
LM @ FNCL  
INCORRECT COMPANY SIGNAGE  
7.12.2006**





**NATIONAL OIL RECOVERY CORPORATION  
8" LIQUIDS PL (CRUDE)  
LEASED TO SUPERIOR CRUDE GATHERING  
TL @ SAND RD.  
ROW MAINT. NEEDED  
7.12.2006**



**NATIONAL OIL RECOVERY CORPORATION  
8" LIQUIDS PL (CRUDE)  
LEASED TO SUPERIOR CRUDE GATHERING  
TL/MAG STATION @ SAND RD.  
TEST STATION DAMAGED  
7.12.2006**





**NATIONAL OIL RECOVERY CORPORATION  
8" LIQUIDS PL (CRUDE)  
LEASED TO SUPERIOR CRUDE GATHERING  
CV @ CR 4714 (BISHOP RD)  
CASEING VENT & LINE MARKER DAMAGED  
ROW MAINT. NEEDED  
7.12.2006**





**NATIONAL OIL RECOVERY CORPORATION  
8" LIQUIDS PL (CRUDE)  
LEASED TO SUPERIOR CRUDE GATHERING  
EXPOSED PL @ PIPE RACK (CR 4714)  
7.12.2006**



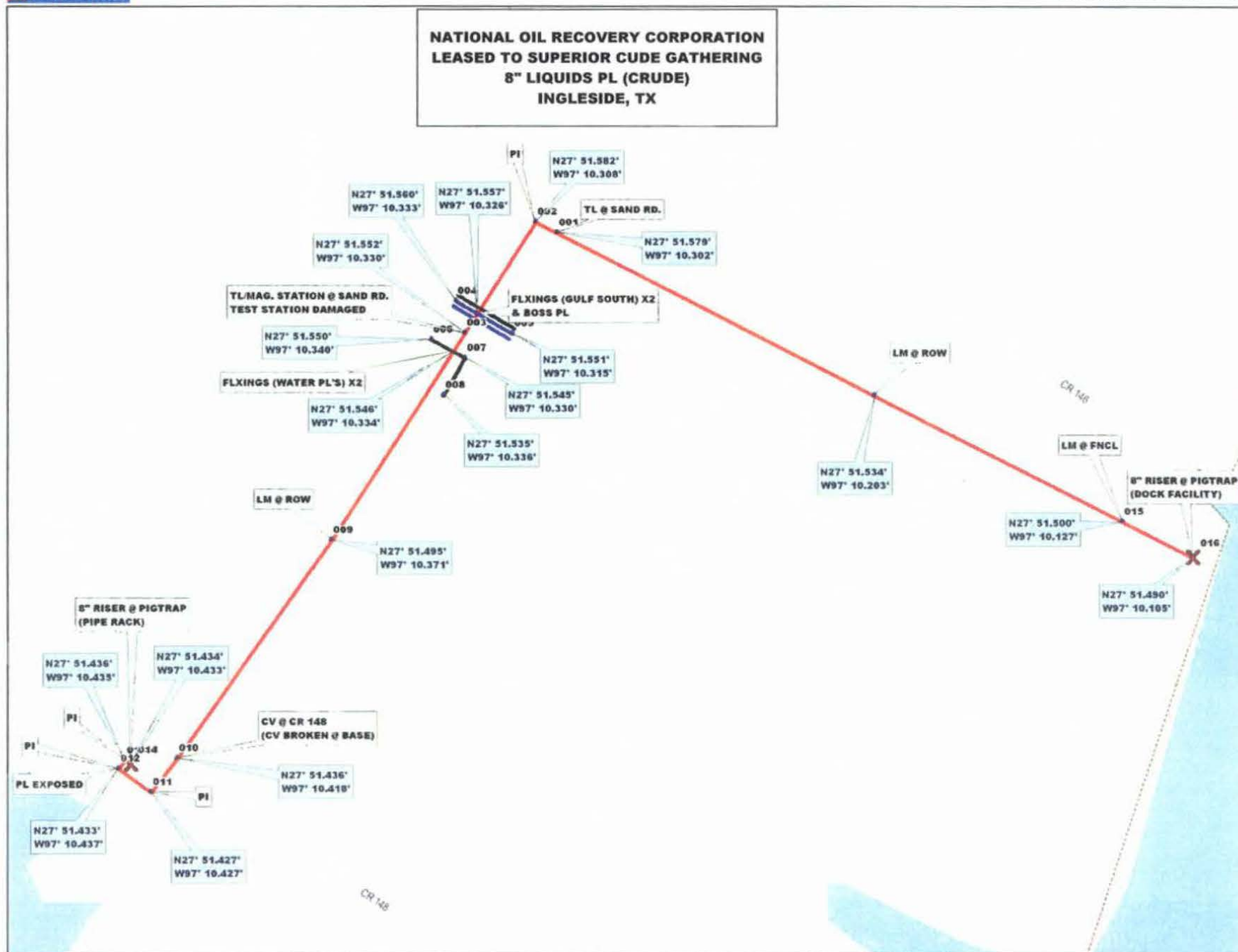


**NATIONAL OIL RECOVERY CORPORATION  
8" LIQUIDS PL (CRUDE)  
LEASED TO SUPERIOR CRUDE GATHERING  
8" RISER & PIGTRAP (CR 4714)  
ATM CORROSION  
7.12.2006**





**NATIONAL OIL RECOVERY CORPORATION  
8" LIQUIDS PL (CRUDE)  
LEASED TO SUPERIOR CRUDE GATHERING  
RISERS & PIGTRAP (CR 4714)  
DETERIORATION OF COATING  
7.12.2006**



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